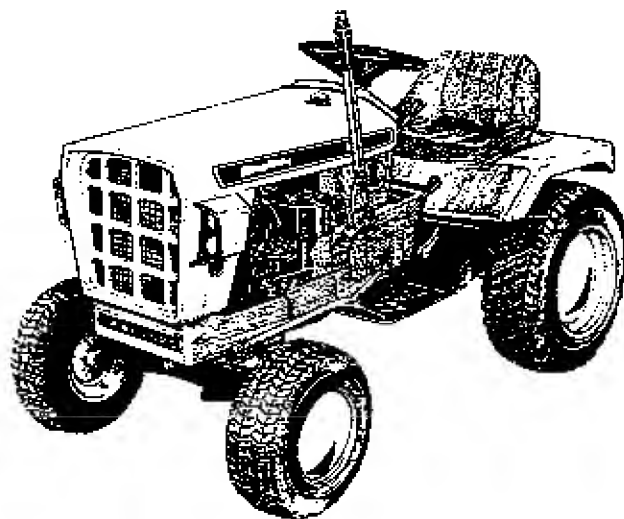

Simplicity®



OWNER'S MANUAL

RIDING TRACTOR

SOVEREIGN 3416H MFG. NO. 871

SIMPLICITY MANUFACTURING COMPANY, INC.



TP-1359
PRINTED IN USA

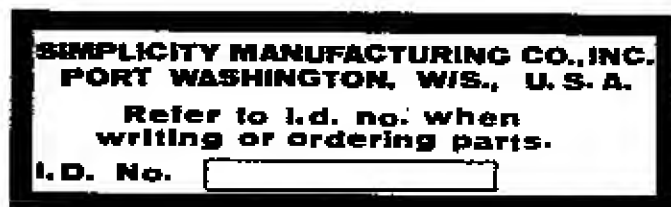
TO THE OWNER

Congratulations on your purchase of the Simplicity tractor. It has been designed with emphasis on the ability to do your most important jobs quickly and efficiently with the least operator effort.

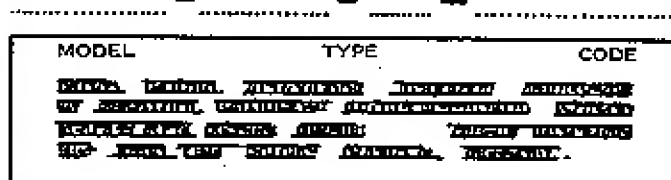
So that you can get the very most from your purchase, you and anyone else who may operate the tractor should study this manual and the owners manual for your attachments before using your Simplicity tractor. Throughout the manual, we will refer to directions as left, right, front, and rear. These directions are as the operator sits on the tractor seat in the driving position.

For your own safety and that of your family and others, periodically review the safety tips found in this manual. You will find the table of contents very useful in referring to this manual when questions arise in the future. We have provided you with information to perform most service jobs quickly and easily, but your Simplicity dealer will be happy to help you with any service or repair work.

When ordering replacement parts for your Simplicity tractor, be prepared to give your dealer the identification numbers found on the tractor and engine identification plates shown below. The identification plate for the tractor is located on the frame in front of the tractor seat. The one for the engine is located on the left side of the engine blower housing. We suggest that you locate the numbers and record them below for easy reference.



TRACTOR IDENTIFICATION PLATE



ENGINE IDENTIFICATION PLATE

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SAFETY PRECAUTIONS TO PROTECT YOURSELF AND OTHERS

OPERATION

Know the controls and how to stop quickly - **READ THE OWNER'S MANUAL.**

Do not allow children to operate vehicle. Do not allow adults to operate it without proper instruction.

Do not carry passengers. **KEEP CHILDREN AND PETS A SAFE DISTANCE AWAY.**

Clear work area of objects which might be picked up and thrown.

Take all possible precautions when leaving vehicle unattended; such as disengaging power-take-off, lowering attachments, shifting into neutral, setting parking brake, stopping engine and removing key.

Do not stop or start suddenly when going uphill or downhill. Mow up and down the face of steep slopes; never across the face.

Reduce speed on slopes and in sharp turns to prevent tipping or loss of control. Exercise extreme caution when changing direction on slopes.

Stay alert for holes in terrain and other hidden hazards.

Use care when pulling loads or using heavy equipment.

- A. Use only approved drawbar hitch points.
- B. Limit loads to those you can safely control.
- C. Do not turn sharply. Use care when backing.
- D. Use counterweight (s) or wheel weights when suggested in owner's manual.

Watch out for traffic when crossing or near roadways.

Keep all nuts, bolts, and screws tight to be sure equipment is in safe working condition.

Do not alter basic engine governor settings or overspeed engine.

Do not operate equipment when barefoot or wearing open sandals. Always wear substantial footwear.

FUEL AND FIRE HAZARDS

Handle gasoline with care - it is highly flammable.

- A. Use approved gasoline container.
- B. Never remove cap or add gasoline to a running or hot engine or fill fuel tank indoors. Wipe up spilled gasoline.

C. Open doors if engine is run in garage - exhaust fumes are dangerous. Do not run engine indoors.

Never store equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark.

Allow engine to cool before storing in any enclosure.

To reduce fire hazard keep engine free of grass, leaves or excessive grease.

ATTACHMENTS

Disengage all attachment clutches and shift into neutral before attempting to start engine.

Disengage power to attachments and stop engine before leaving operator position.

Disengage power to attachment (s) and stop engine before making any repairs or adjustments.

Disengage power to attachments when transporting or not in use.

When using any attachments never direct discharge of material toward bystanders or allow anyone near vehicle while in operation.

Keep vehicle and attachments in good operating condition and keep safety devices in place. Use guards as instructed in owner's manual.

Vehicle and attachments should be stopped and inspected for damage after striking a foreign object and the damage should be repaired before restarting and operating the equipment.

When using vehicle with mower:

- (1) Mow only in daylight or in good artificial light.
- (2) Never make a cutting height adjustment while engine is running if operator must dismount to do so.
- (3) Shut engine off when unlogging chute.
- (4) Check blade mounting bolts for proper tightness at frequent intervals.

Stop blades when crossing gravel drives, walks or roads.

If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.

SIMPLICITY'S NEW EQUIPMENT WARRANTY

The Company warrants Simplicity products to be free from defects in material and workmanship, except the Company makes no warranty, express or implied, with respect to tires, engines, generators and voltage regulators, which are warranted by their respective manufacturers. Any part covered by this warranty which is proven defective within one year (45 days for equipment used for rental, municipal or commercial purposes) under normal use, from date of purchase, will be replaced without charge, provided such part is returned to the factory, (if requested), and is found to be defective upon examination at the factory. This warranty does not apply to any Simplicity products altered outside of the Simplicity factory. **THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, PERFORMANCE, OR OTHERWISE.** The Company's obligation under its warranty is strictly and exclusively limited to the replacement of such parts, and in no event shall the Company be liable for any other damages, whether direct, immediate, incidental, special, or consequential. Simplicity Manufacturing Company, Inc., reserves the right to modify or change specifications without prior notification. There are no warranties which extend beyond the description of any Simplicity product.

OPERATION

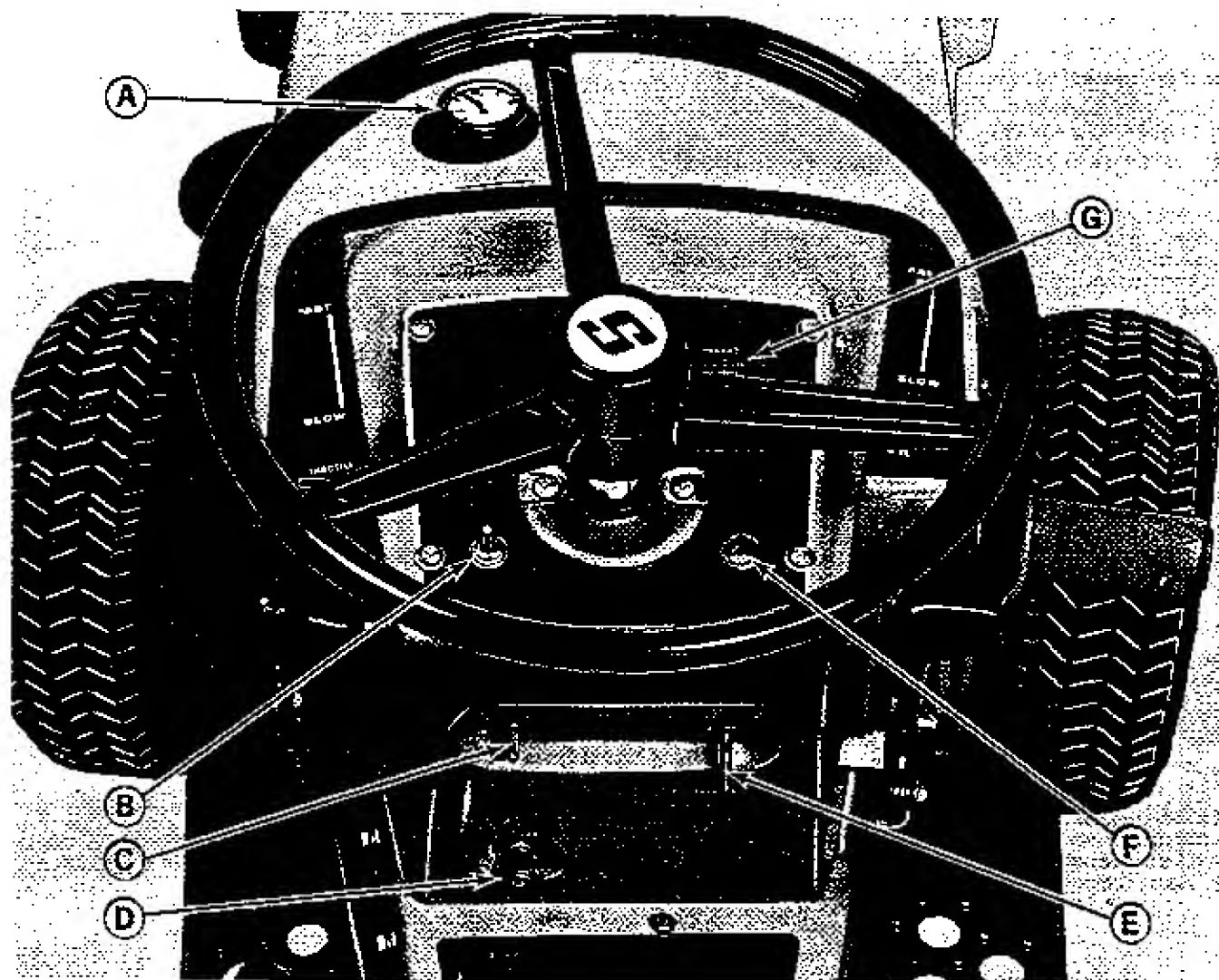


Figure 1. Tractor instrument panel as seen from the operators position on tractor seat.

INSTRUMENTS AND CONTROLS-HOW TO UNDERSTAND AND USE THEM

Picture yourself seated on your Sovereign tractor. Before starting the engine, lets learn how to understand and use the instruments and controls. The paragraphs referring to the instruments and controls are illustrated on figures 1 through 5.

IGNITION SWITCH: (Figure 1, item E) To actuate the ignition switch first insert the ignition key as shown. When the key is turned clockwise to the first position, the ignition is ON. In the ON position the lights, hourmeter, etc. will operate. Turn the key clockwise past the ON position to the START position to actuate the starter. **THE HYDROSTATIC TRANSMISSION CONTROL LEVER MUST BE IN THE NEUTRAL POSITION AND THE POWER TAKE OFF CLUTCH CONTROL LEVER MUST BE IN THE DISENGAGED POSITION BEFORE THE STARTER WILL ACTUATE.** Release the key as soon as the engine starts. Return

the key to the vertical position to stop the engine. **CAUTION: ALWAYS REMOVE THE IGNITION KEY WHEN CLEANING, ADJUSTING, OR SERVICING THE TRACTOR OR ANY ATTACHMENT OR WHEN LEAVING THE VEHICLE UNATTENDED.**

CHOKE CONTROL KNOB: (Figure 1, item D) The choke control knob may be pulled out to increase the amount of fuel entering the engine for starting and cold weather warmup. When starting a cold engine in cold weather pull the choke all the way out. Some choke may be required to start the engine when the air temperature is above 70 degrees F or while the engine is still warm from being recently run. After the engine has started, push the choke in slowly. In cold weather it may be necessary to leave the choke pulled out slightly for three or four minutes while the engine warms up. **NEVER OPERATE THE ENGINE WITH THE CHOKE OUT AFTER IT HAS HAD SUFFICIENT TIME TO WARM UP - ABOUT 5 MINUTES SHOULD BE SUFFICIENT EVEN IN COLD WEATHER.**

GENERATOR WARNING LIGHT: (Figure 1, item F) The generator light will warn you if the generator or voltage regulator on your tractor is not functioning properly. It is normal for the generator light to come on when the ignition switch is in the ON position and the engine is stopped or running at low speed. The light should go out when the engine is running at high speeds. If it does not the generator or voltage regulator is not functioning properly. Check the generator belt adjustment as described on page 12. See your Simplicity dealer if the light will not go out after the belt is adjusted.

HOURLMETER: (OPTIONAL) - (Figure 1, item G) The hourmeter is designed to record the number of hours the engine runs. However, since it is electrically operated, it will run any time the ignition switch is in the ON position even though the engine may not be running. The hourmeter is useful in keeping accurate maintenance records, and also a convenient way of telling how much time the tractor has been used on a particular job.

FUEL GAUGE AND FILLER CAP: (Figure 1, item A) The fuel gauge indicates the amount of fuel in the tank. Before adding fuel, shut off the engine and allow it to cool. To remove the fuel gauge and filler cap for adding gasoline, turn the fuel filler gauge-cap counter-clockwise. The fuel tank holds approximately 3 gallons - enough for about 3 hours of mowing. Use leaded or non-leaded "regular" grade automotive gasoline. **CAUTION: DO NOT ALLOW LIGHTED CIGARETTES, MATCHES, ETC., AROUND ANY OPEN GASOLINE CONTAINER. DO NOT OVER FILL; WIPE UP ANY SPILLED GASOLINE.**

LIGHT SWITCH: (Figure 1, item C) The switch should be moved up to the ON position to turn on the tractor lights. To prevent the lights from being turned on by unauthorized persons, the ignition switch must also be in the ON position for the lights to operate. To turn the lights off, push the light switch down to the OFF position. **DO NOT OPERATE THE LIGHTS FOR LONG PERIODS OF TIME (MORE THAN 20 MINUTES) WHEN THE GENERATOR LIGHT IS ON OR THE BATTERY MAY DISCHARGE ENOUGH SO IT WILL NOT START THE ENGINE.**

POWER LIFT SWITCH: (OPTIONAL) (Figure 1, item B) The power lift switch controls the electrically operated power lift unit. Push the toggle switch forward when you wish to raise a front center or rear mounted attachment. Pull it back toward you to lower the attachments. The power lift will stop and hold in any position when you release the toggle switch. The height indicator (Figure 7, item A) on the left side of the tractor can be used to determine what position the lift is in. The lift motor will ratchet when it has reached the end of its travel. Ratcheting is not harmful to the unit, but you should release the toggle switch as soon as ratcheting begins to prevent unnecessary wear. If the motor is allowed to ratchet for an extended period of time, a circuit breaker will open, disconnecting power to the lift motor. It will automatically reset after about a minute.

CLUTCH AND BRAKE PEDAL: (Figure 2, item A) Depressing the pedal will first disengage the tractor drive clutch. As you continue to depress the pedal, the brakes will

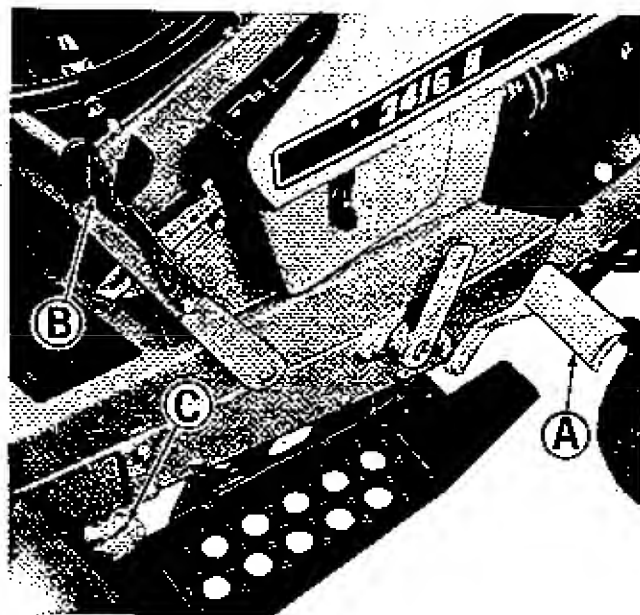


Figure 2. Controls on right side of tractor

be applied to stop the tractor.

HYDROSTATIC TRANSMISSION CONTROL LEVER: (Figure 2, item B) The Hydrostatic transmission control lever regulates the direction and amount of oil (fluid) pumped by the hydrostatic transmission pump to drive the tractor, and is used to control both the direction of travel and the ground speed of the tractor. **NEUTRAL** position for the hydrostatic transmission control lever is as shown with the back of the control lever resting against the notched portion of the guide. The hydrostatic transmission control lever must be in this neutral position for the engine starter to operate.

To move the tractor **FORWARD** grip the control lever squeezing the lock release lever toward the knob and move the control lever forward. The gear shift lever (Figure 5, item A) must also be in the drive position for the tractor to operate. The farther forward from neutral the control lever is pushed, the faster the tractor will move forward at a given engine speed. To slow or stop the tractor when it is moving forward, squeeze the lock release lever toward the knob and pull the control lever rearward slowly toward the neutral position. You can place the hydrostatic transmission in neutral from the forward position without watching it by slightly pushing to the right on the control lever as it is moved rearward. The control lever will stop against the notched portion of the guide when it reaches neutral.

To move the tractor in **REVERSE**, squeeze the trigger of the hydrostatic control lever toward the knob, push the lever to the left, and pull it back from the neutral position. The farther back the control lever is moved, the faster the tractor will travel in **REVERSE**. To stop the tractor in reverse, squeeze the trigger toward the knob and move it slowly to the neutral position. In emergency situations, you may use the clutch and brakes pedal (Figure 2, item A) to stop.

PARKING BRAKE LOCK: (Figure 2, item C) To lock the parking brake grasp the lock, and pull it upward and

back until the handle rests against the foot rest as shown in figure 2. To release pull the top portion away from the foot rest and down. It should be locked in the up position to prevent the tractor from rolling whenever the operator leaves the tractor seat.

SPEED CONTROL LEVER: (Figure 3, item A) The engine speed control lever is used to set the desired engine speed. The speed control lever should be moved forward a-way from the operator to increase engine speed or back toward the operator to reduce engine speed. Consult the appropriate section of this manual for specific information on suggested settings of the engine speed control lever. For example: starting the engine, page 5. Controlling tractor ground speed page 8, and the Operation Chart on page 8.

POWER TAKE OFF CONTROL LEVER: (Figure 3, item B) This power take off lever controls power to center or rear mounted attachments such as a mower or rotary tiller which are driven by the power take off. Pull the lever up and move it forward until it snaps over center to engage the power take off. Pull it back and down to disengage. The tractor engine should be running at 1/2 to full engine speed when the power take off is engaged to absorb the added load. **CAUTION: ALWAYS DISENGAGE THE POWER TAKE OFF, AND WAIT UNTIL ALL ATTACHMENTS HAVE STOPPED MOVING BEFORE LEAVING THE TRACTOR SEAT. THE POWER TAKE OFF CONTROL LEVER MUST BE DISENGAGED BEFORE THE ENGINE WILL START.**

MANUAL LIFT LEVER: (Figure 3, item C) The lift lever is used for lifting mounted attachments, such as the rotary mower, or the tiller out of the operating position so they can be transported. You can also regulate the operating height of attachments, such as the grader blade, and snow



Figure 3. Controls on left side of tractor.

thrower, by using the notches and pin holes provided. The thumb button (D) on top of the handle is provided to disengage the catch from the quadrant so the lever can be moved forward or back as desired and locked into position. See the owners manual for any attachment you may be using with the tractor for specific information on how the lift lever should be used.

DUAL LIFT LEVER: (OPTIONAL) (Figure 4, item A) The dual lift lever provides a convenient means of operating a front mounted attachment such as a snow thrower or a snow plow and dozer blade independently of center or rear mounted attachments. A good example is if you wish to use the rotary tiller and the snow plow and dozer blade in preparing a seed bed. Both attachments can be mounted to the tractor at the same time, and the operator can conveniently raise or lower each of them from the tractor seat.

GEAR SHIFT LEVER: (Figure 5, item A) The gear shift lever located at the rear of tractors equipped with the hydrostatic transmission is used to disengage the transmission from the rear axle. With the lever in the NEUTRAL position, the tractor may be moved without engine power. To engage, move the lever to the right, as shown in Figure 5. Disengage the shift lever by pushing the shift lever to the left as shown in Figure 5.

BEFORE OPERATING THE TRACTOR

Though your Simplicity dealer may have performed the before starting checks listed below, we suggest that you personally check each one so that you will become familiar with them and also to insure that your tractor is ready to operate the first time you use it.

TIRE INFLATION: The tires should be checked and in-

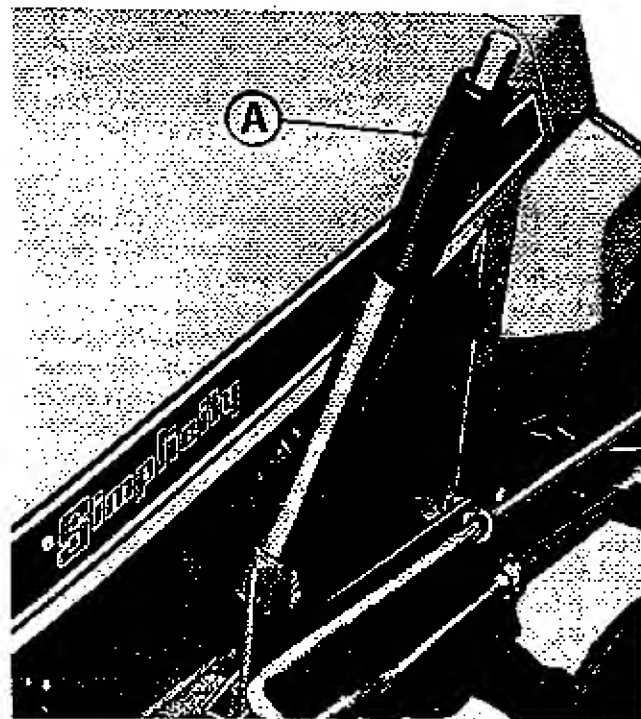


Figure 4. Dual lift lever.

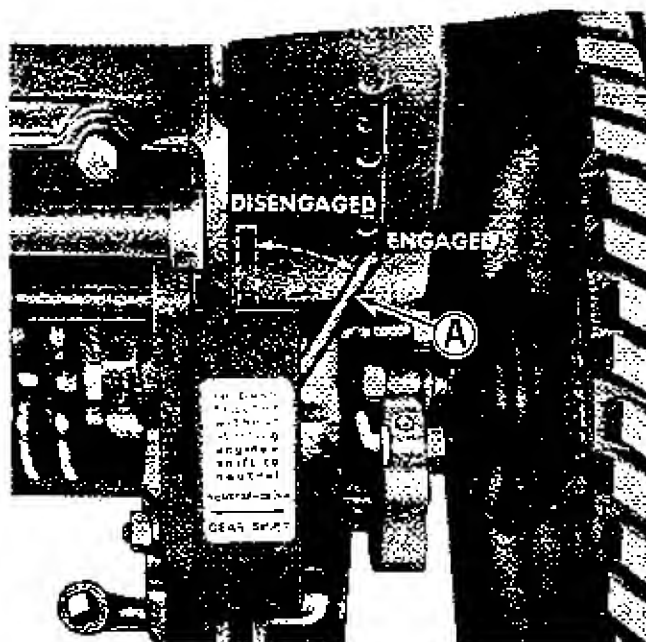


Figure 5. Gear shift disconnect lever.

flated to the proper pressure before operating. Front tires should have 12 to 15 PSI of air and rear tires 6 to 8 PSI of air.

CRANKCASE OIL: Before starting the engine, insure the engine crankcase is filled with the correct grade and weight of oil. See page 14 in the maintenance section of this manual for instructions on checking the oil and the correct oil to use.

FUEL SUPPLY: Fill the fuel tank completely with clean fresh leaded or non-leaded regular grade automotive gasoline. (Do not mix oil with gasoline). Premium gasolines are not recommended as they increase carbon deposits in the engine. **CAUTION: GASOLINE IS HIGHLY FLAMMABLE. NEVER ALLOW ARTICLES SUCH AS LIGHTED MATCHES, OR CIGARETTES, WHICH COULD CAUSE IT TO IGNITE NEAR OPEN GASOLINE CONTAINERS. DO NOT OVERFILL. WIPE UP ANY SPILLED FUEL. BE SURE THE ENGINE IS NOT RUNNING AND HAS BEEN ALLOWED TO COOL BEFORE ADDING FUEL.**

TRANSMISSION: The transmission oil (fluid) level should be checked and the transmission filled with Dexron Automotive Transmission Oil to the oil level plug. (Figure 28, item A).

TRANSFER GEAR CASE OIL: See figures 28. Remove the pipe plug (D) from the elbow at the rear of the gear case. Oil should be present at the bottom of the filler elbow. If it is not, add 90 weight transmission oil until it is visible in the bottom of the elbow.

AIR CLEANER: Insure that the air cleaner is in place and properly sealed. If it is dirty, clean or replace it according to the instructions on page 18, in the Maintenance section of this manual.

BATTERY: Check the battery to be sure it is filled to the

proper level with electrolyte and the vent holes in each of the filler caps are open. See page 18 in the Maintenance section of this manual.

AXLE HOUSING OIL: See figure 27. Remove the pipe plug (A) to check the oil. The oil should be level with the top of the elbow. If it is not, add 90 weight transmission oil until it is level with the top of the elbow.

LUBRICATION: Lubricate all grease Zerk and pivot points according to the every 25 hour maintenance instructions on page 14 of this manual. A pisto-luber grease gun specially designed for this purpose is available from your Simplicity dealer.

ATTACHMENTS: Read and become familiar with the Attachments Manual for any attachments you are using with your tractor.

SEAT ADJUSTMENTS: The seat should be adjusted so the operator can comfortably depress the clutch and brake pedal while sitting back in the seat. See page 10 in the Adjustment section of this manual if the seat requires adjusting.

STARTING THE ENGINE

1. Refer to the Instruments and Controls section beginning on page 2 of this manual for the location and the use of instruments and controls. **CAUTION: IT IS DANGEROUS TO START THE TRACTOR UNLESS YOU ARE SEATED IN THE TRACTOR SEAT.** Insure that the power take off clutch control lever is in the disengaged position, and the hydrostatic transmission control lever is in the neutral position.
2. Move the engine speed control lever to midway between slow and fast.
3. Pull the choke knob out. In cold weather pull it all the way out. In warmer weather or when starting an engine which is still warm from recent operation less choke will be required.
4. Depress the clutch brake pedal and hold it down to disengage the transmission drive. Although the engine may be started without disengaging the clutch, in cold weather it will start easier with the clutch disengaged since the starting motor will not have to turn the transmission in addition to the engine. Also depressing the clutch brake pedal provides additional safety in starting as the tractor can not move forward or backward unexpectedly when the engine starts.
5. Insert the ignition key and turn it to the right past the ON position to the START position to engage the starter motor. As you turn the key, check the Generator warning light to see that it is functioning properly.
6. When the engine starts, release the key and allow it to return to the ON position. Slowly push the choke in. After the engine has run for a few minutes it should not require any choking. If the engine does not start after about 10 seconds of cranking it may be receiving too rich a fuel mixture. Push the choke in and try again. The engine may not need to be choked when starting it in warm weather or if it has been operated recently.
7. Release the clutch-brake pedal as soon as the engine is running smoothly.

STOPPING THE ENGINE

1. Move the engine speed control lever to the **SLOW** position.
2. If the tractor has been operating under full load, allow the engine to idle for about a minute to reduce the engine temperature. Stopping a hot engine too suddenly can damage engine parts.
3. Turn the ignition key counter-clockwise to the vertical position to stop the engine.
4. Set the parking brake.
5. Remove the ignition key to prevent unauthorized use of the tractor.

CONTROLLING TRACTOR GROUND SPEED

Tractor ground speed can be controlled by the position of the hydrostatic transmission control lever and/or the engine speed control lever.

ENGINE SPEED

Most power take off driven attachments operate best at a particular speed. Since the speed of the power take off drive is directly related to the engine speed it is desirable to adjust the engine speed to control attachment speed and use the hydrostatic lever to control ground speed. For pulling light loads or transporting the tractor and attachments from one area to another, adjusting the engine speed is one method of controlling tractor ground speed.

HYDROSTATIC TRANSMISSION CONTROL

The hydrostatic equipped tractor is designed so that forward and reverse movement can be completely controlled without the use of the clutch. Simply squeeze the control handle and move it forward to start the tractor moving ahead. To slow the tractor move the control to the rear. As the control is moved further away from neutral the tractor ground speed will increase. The clutch and brake pedal may be depressed to stop the tractor at any time. It is very handy to use the clutch to slow down for turns or when mowing in confined areas when both hands are needed for steering.

STARTING TRACTOR TRAVEL

Assure yourself that the area in which you are going to drive the tractor is free of obstructions. Release the parking brake and look around to insure there are no obstructions in your path. To start the tractor in motion, squeeze the trigger of the hydrostatic control lever with your right hand, and move it forward or back from the neutral position slowly until you have reached the desired speed. Always move the hydrostatic control lever slowly to prevent abrupt and dangerous speed changes. **CAUTION: DO NOT STOP OR START SUDDENLY WHEN GOING UP OR DOWN HILL. MOW UP AND DOWN THE FACE OF STEEP SLOPES; NEVER ACROSS THE FACE. REDUCE SPEED ON SLOPES AND IN SHARP TURNS TO PREVENT TIPPING OR LOSS OF CONTROL. EXERCISE EXTREME CAUTION WHEN CHANGING DIRECTION ON SLOPES.**

STOPPING TRACTOR TRAVEL

To stop the tractor squeeze the trigger toward the hydrostatic transmission control lever and move the lever slowly toward the **NEUTRAL** position. In emergencies or if both

hands are required on the steering wheel, you may depress the clutch and brake pedal to stop the tractor. Before leaving the tractor seat, shut off the engine, set the parking brake, and remove the ignition key.

HOT WEATHER OPERATION

When operating the tractor at temperatures above 75°F pay particular attention to the following items to prevent damage.

1. Keep the engine cooling fins clean and free of obstruction which would decrease air flow to and from the engine. See page 14 for cleaning instructions.
2. Keep the transmission oil (fluid) cooler clean and free of dirt and chaff which would restrict air flow. Also keep the cooler free of oil. An oil film on the outside of the cooler greatly reduces its cooling ability. See page 14 for instructions on cleaning the oil cooler.
3. Insure that you are using the proper grade and weight of oil in the engine for the temperature where the tractor is being used. Check the oil level each time you fill the fuel tank. **DO NOT OVERFILL THE CRANKCASE - ENGINE OVERHEATING MAY RESULT.**
4. Check the battery water level more frequently than every 25 hours which is recommended under normal conditions. High temperatures cause faster evaporation of water from the battery.
5. Remove the carburetor heat deflector used with the snow thrower or dozer blade.

COLD WEATHER OPERATION

When the tractor is being used in temperatures below 30°F, check the following items closely:

1. Use the correct grade and weight of oil for the temperature conditions. Change the oil only when the engine is warm. If an unexpected temperature drop occurs when the engine is filled with summer oil, before starting the engine, move the tractor to a warm location until the oil will flow freely.
2. Use fresh fuel. Fill the fuel tank after each days use to protect against moisture condensation.
3. Disengage the clutch when starting the engine.
4. Install the heat deflector furnished with the snow thrower or dozer blade if these attachments are to be used.

DUSTY OPERATING CONDITIONS

When the tractor is operated in dusty or dirty conditions check the following items closely:

1. Keep the engine and transmission oil cooler fins clean and free of materials which will decrease air flow.
2. Service the air cleaner more frequently. Clean or replace it as often as necessary to allow air to flow to the carburetor freely.
3. Change the engine oil more frequently. The oil should be changed more often than every 25 hours as is recommended under normal conditions. In extremely dusty conditions, change every 10 operating hours.

OUT OF SERVICE PROTECTION (Storage)

When the tractor is to be stored without use for a month or longer, the following precautions should be taken to insure

your tractor will be ready to go when you need it:

1. Unless you wish to run the tractor until the fuel tank is empty, add a good brand of gasoline stabilizer. This additive, Stabil, available from your Simplicity dealer, prevents formation of gum and varnish for up to one year, providing easier starting and a cleaner fuel system.

2. Drain and refill the engine crankcase while the engine is warm. Tie a tag on the tractor indicating what grade and weight of oil was used.

3. Remove the spark plug and pour one ounce (two tablespoons) of SAE 30 engine oil into the cylinder. Engage the starter to turn the engine over a few times, then reinstall the spark plug.

4. Clean the air cleaner element as described on page 18, of the Maintenance instructions.

5. Plug the exhaust outlet to prevent the entrance of moisture, dirt, bugs, etc.

6. Insure the battery is filled to the proper level with water and is fully charged. Battery life will be increased if it is re-

moved and put in a cool dry place and fully charged about once a month.

7. Grease all grease Zerk's and put oil on the lubrication points shown in the Maintenance section.

8. If the tractor is to be stored 6 months or longer block the tractor up off the wheels to relieve weight and keep the tires off a damp floor. Protect the tires from prolonged exposure to direct sunlight.

9. Store the tractor in a dry place indoors.

STARTING THE TRACTOR AFTER STORAGE













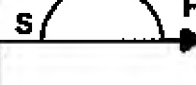







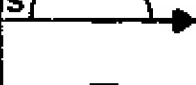



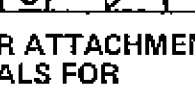

Before starting the tractor after it has been stored, do the following:

1. Remove the blocks from under the tractor.

2. Replace the battery.

3. Unplug the exhaust outlet.

4. Perform the "Before Operating the Tractor" instructions found on page 5 of this manual.

Attachment	Engine Speed Control	Hydrostatic Lever Position	Approx. Ground Speed (MPH)	Required Accessories and Options	Recommended Accessories and Options
Transporting Tractor			3-7		
42" or 48" Rotary Mower (Smooth terrain - normal grass)			3-5		2 Rear wheel weights when mowing slopes 20-40% mowing slopes greater than 40% not recommended.
42" or 48" Rotary Mower (Rough terrain - heavy or wet grass)			2-4		2 Rear wheel weights when mowing slopes 20-40% mowing slopes greater than 40% not recommended.
46" Sickle Bar			3-5		2 Rear wheel weights when mowing slopes 20-40% mowing slopes greater than 40% not recommended.
38" Lawn Revitalizer			3-5	Rear lift kit.	Power lift kit.
36" or 42" Snow Thrower (Light Snow)			3-4		Power lift kit. Tire chains. 4 Rear wheel weights. 2 Front wheel weights.
36" or 42" Snow Thrower (Heavy or wet snow)			1-2		Power lift kit. Tire chains. 4 Rear wheel weights. 2 Front wheel weights.
42" or 46" Snow Plow and Dozer Blade			3-5		Tire chains. 4 Rear wheel weights. 2 Front wheel weights. Power lift kit.
42" Grader Blade			3-5		4 Rear wheel weights.
36" Rotary Tiller			1-2	Rear lift kit.	4 Rear wheel weights. 2 Front wheel weights. Power lift kit.
10" Mounted Plow			2-3	Rear lift kit.	4 Rear wheel weights. 2 Front wheel weights. Power lift kit.
Cultivator			2-4	Rear lift kit.	4 Rear wheel weights. 2 Front wheel weights. Power lift Kit.
Spring Tooth Harrow			3-5	Rear lift kit.	4 Rear wheel weights. 2 Front wheel weights. Power lift kit.

REFER TO YOUR ATTACHMENT OWNERS MANUALS FOR ADDITIONAL INFORMATION.

Figure 6. Operation Chart

TROUBLE SHOOTING GUIDE

PROBLEM OR SYMPTOM	POSSIBLE CAUSES	CHECKS AND CORRECTIONS
Starter will not turn engine over.	Hydrostatic control lever not in neutral position. Power take off control lever not in disengaged position. Battery discharged or dead. Protective circuit breaker tripped. Neutral safety start switch, wire loose or broken. Wiring loose or broken.	Move hydrostatic control lever to neutral. Move control lever to disengage position. Check the battery charge or replace as necessary. Wait 1 minute for circuit breaker to reset. Visually check the wiring to the safety switches. Visually check wiring, replace any broken or frayed wires, tighten loose connections.
Engine turns — will not start.	Out of fuel. Engine flooded. Crankcase oil too heavy. Fuel filter plugged. Water in gasoline. Spark plugs worn or dirty.	Fill fuel tank. Push choke in, attempt to start. Change oil as recommended on page 15. Replace fuel filter. See page 18. Drain fuel tank, replace fuel filter. Check and replace or set. See page 19.
Engine starts hard or runs poorly.	Fuel mixture too rich. Spark plugs worn or dirty.	Push choke in. Clean air filter element. See page 18. Check and replace or set. See page 19.
Engine knocks.	Not enough oil in crankcase. Using wrong weight of oil. Using wrong grade of gasoline.	Add oil as required. See page 14. Change oil, use weight recommended for weather conditions. See page 15. Use regular grade automotive gasoline.
Tractor drive clutch will not disengage.	Too much clutch free travel.	Adjust clutch pedal free travel. See page 11.
Engine will not idle smoothly.	Air cleaner dirty. Water in fuel tank. Carburetor idle mixture set incorrectly. Plugs worn or not set properly.	Clean or replace air cleaner. See page 18. Remove fuel tank to drain, replace fuel filter. Set idle mixture. See page 13. Adjust or replace. See page 19.
Excessive oil consumption.	Engine running too hot. Using wrong weight of oil. Too much oil in crankcase.	Clean engine fins. See page 14. Change to correct weight oil. See page 15. Check oil level according to instructions on page 14.
Exhaust is black or smokey.	Air filter element dirty. Fuel mixture too rich.	Clean or replace filter element. Be sure choke opens fully when it is pushed way in. Set carburetor idle adjustment. See page 13.
Engine runs, tractor will not drive with full power.	Shift lever in neutral. Parking brake ON. Transmission oil cold. Transmission low on oil. Main Drive belt slipping.	Move shift lever to drive. See figure 5. Release parking brake. Allow 5-10 minutes to warm up. Add transmission fluid. See page 17. Adjust clutch free travel. See page 11.
Tractor creeps forward or back w/hydrostatic control in Neutral.	Hydrostatic control out of adjustment.	Adjust hydrostatic neutral setting. See page 11.
Brake will not hold.	Brakes need adjusting. Worn brake lining.	Adjust brake linkage. See page 11. Have your Simplicity dealer replace lining.
Tractor drive clutch will not engage.	Too little clutch free travel.	Adjust clutch free travel. See page 11.
Tractor handles poorly.	Steering linkage or front axle loose. Tires not properly inflated. Wheels are spinning or slipping. Moving too fast on sloping surfaces.	Tighten any loose connections. Inflate tires correctly. Six to eight pounds in rear and 12-15 pounds in front. Use weights to provide additional stability and traction. Reduce speed.
Power lift will not operate.	Ignition switch may not be on. Circuit breaker may have cut out.	Turn ignition switch on. Wait about a minute for circuit breaker to reset.
Drive belt slips.	Belt stretched or worn. Pulleys may be greasy or oily. Too little clutch free travel.	Replace with correct Simplicity belt. Clean with non-flammable solvent. Adjust free travel. See page 11.

ADJUSTMENTS

Most of the adjustments described here are easy to perform. Some of the adjustments require a little mechanical know-how and some special tools to do them well. You may wish to have your Simplicity dealer make some or all of the adjustments as they are required; however, we have given instructions for them here as a convenience to you should you wish to make them yourself. **CAUTION: DO NOT ATTEMPT TO MAKE ANY ADJUSTMENTS WHILE THE ENGINE IS RUNNING UNLESS REQUIRED IN THE INSTRUCTIONS. IF THE ENGINE MUST BE RUNNING TO MAKE AN ADJUSTMENT, BE CAREFUL TO STAY CLEAR OF ANY MOVING PARTS.**

The Landlord and Sovereign tractors have been designed for easy accessibility to the areas which need to be reached in making adjustments and performing maintenance. The underside of the frame is open to provide easy access to areas requiring lubrication, adjustment, or repair.

RAISING THE TRACTOR HOOD

See figure 7. The tractor hood is hinged at the front by two spring loaded bolts. It may be easily opened by releasing the two rubber straps (B) located on either side of the hood. Pull down and out on the straps to release them. Lift upward on the back of the hood to raise it. The hood raised in this position provides easy access to the generator, battery, fuel tank, engine, etc.

RAISING THE SEAT DECK

See figure 8. The tractor seat deck (A) is hinged at the back. To raise the seat deck, reach under it from each side and pull the two locking levers (B) to the outside. As you hold the

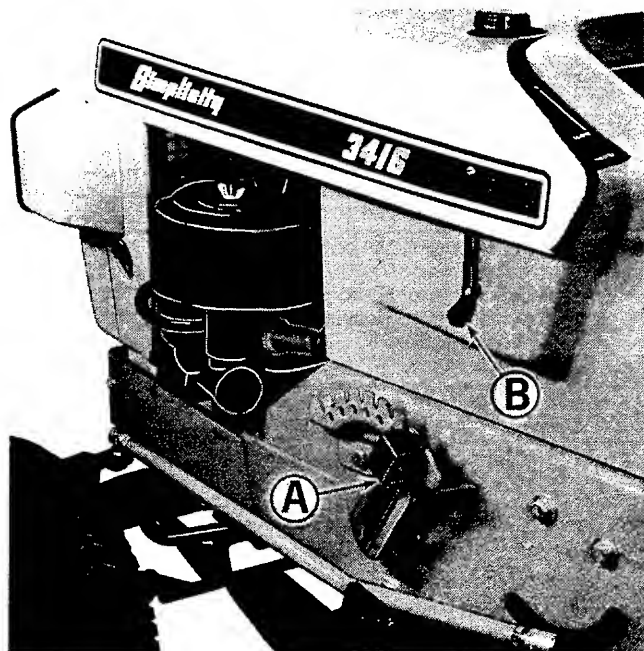


Figure 7. Left side of tractor.

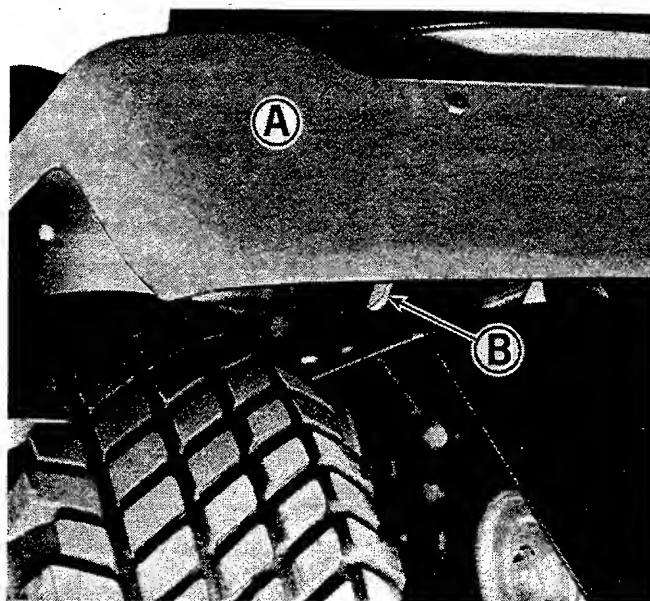


Figure 8. Seat deck release at front of seat deck.

locks out raise the seat deck as shown in figure 9. Raising the seat deck in this manner will expose many of the transmission adjustment and maintenance areas.

SEAT ADJUSTMENT

See figure 9. The tractor seat is properly adjusted when the operator can comfortably operate the clutch and brake pedal while sitting back in the seat. The seat can be adjusted forward or back in any of four positions. If adjustment is required, proceed as follows:

1. See figure 9. Position the seat deck as shown by following the instructions under Raising the Seat Deck on page 10.
2. Remove the two cap screws and lock washers at (A).
3. Remove the two nuts and lock washers at (B).
4. If the seat is to be positioned in either of the two forward sets of mounting holes the two rubber spacers are placed over the studs at (B) and used between the seat and seat deck. If

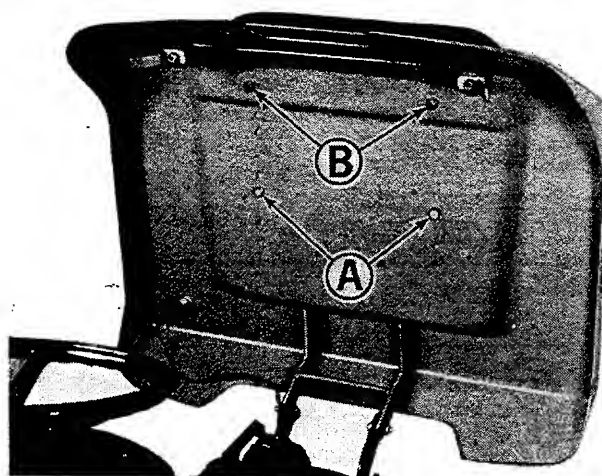


Figure 9. Seat deck raised.

the seat is to be positioned in either of the two rearward positions, the rubber spacers are placed over the studs (B), but under the seat deck. Line the seat up with the desired holes in the seat deck, and install the rubber spacers according to the holes used.

5. Install the two lock washers and nuts at (B) and tighten them securely.
6. Install the two cap screws and lock washers at (A) and tighten them securely.
7. Lower the seat deck.

CLUTCH FREE TRAVEL

See figure 10. The clutch free travel is correct when there is 1/8" between the nuts (A) and the rod guide when the clutch brake pedal is released and pulled rearward as far as it will go. If adjustment is required, proceed as follows:

1. Raise the seat deck as shown in figure 9, by following the instructions under Raising the Seat Deck on page 10.
2. Using two wrenches hold the forward nut at (A) stationary with one wrench while turning the rearward nut counter-clockwise slightly with the other to separate them.
3. Pull rearward on the clutch brake pedal to insure it has returned completely to the engaged position.
4. Turn the forward nut at (A) as necessary so that the distance between it and the rod guide is 1/8" as shown in figure 10.
5. Using two wrenches hold the forward nut at (A) stationary while turning the rear one clockwise to tighten the two nuts together securely.
6. Lower the seat deck.

HYDROSTATIC NEUTRAL ADJUSTMENT

If the tractor tends to creep (move slightly forward or backward) when the hydrostatic speed control lever is in the neutral position, proceed as follows:

1. Raise the seat deck by following instructions under Raising the Seat Deck on page 10.
2. See figure 5. Move the gear shift lever to the neutral

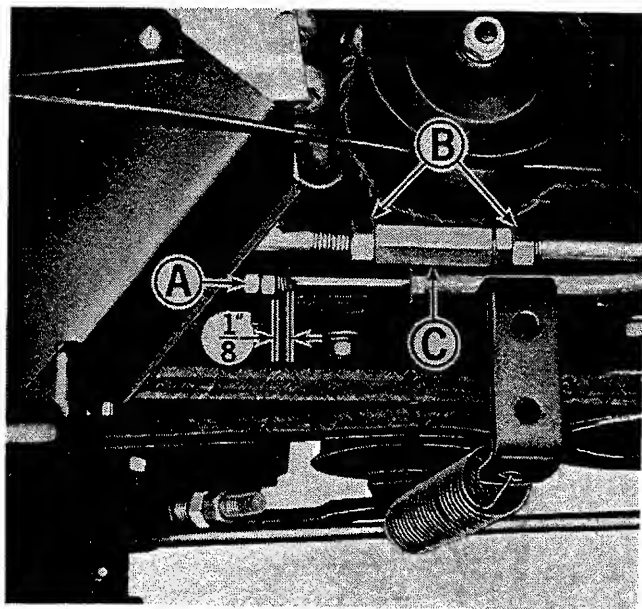


Figure 10. Clutch free travel and hydrostatic transmission neutral adjustment.

position as shown.

3. See figure 10. Loosen the two locking nuts (B) on either end of turnbuckle (C).
4. Start the tractor engine and set the engine speed control so it runs at about 1/3 full speed.
5. Make sure the hydrostatic speed control lever (Figure 2, item B) is in the **NEUTRAL** position.
6. **CAUTION: USE CARE WHEN WORKING AROUND MOVING BELTS AND PULLEYS TO KEEP HANDS, CLOTHING, ETC., FROM BEING CAUGHT IN THEM.**
7. Jack up and block the rear of the tractor, so the rear wheels are free to turn. Use an open end wrench to rotate the turnbuckle (Figure 10, item C) until the rear wheels do not rotate. When the rear wheels do not rotate when the engine is running at 1/3 full speed, the hydrostatic neutral adjustment is correct.
8. Shut off the tractor engine and remove blocking.
9. See figure 10. After allowing the belt and pulleys to stop turning, use two wrenches to tighten the locking nuts (B) against turnbuckle (C). Tighten the locking nuts (B) one at a time, while using the other wrench to hold turnbuckle (C) from rotating.
10. Lower the seat deck. Place the shift lever in **DRIVE** position and check your adjustment while sitting in the tractor seat by operating the engine at full throttle with the hydrostatic lever in the neutral position.

FOOT PEDAL BRAKE ADJUSTMENT

The foot pedal brake should be adjusted so that it will stop the tractor when it is moving backward, but not so tight to prevent the foot pedal from traveling far enough to disengage the clutch. If adjustment is required proceed as follows:

1. Lift the seat deck by following the instructions under Raising the Seat Deck on page 10.
2. See figure 11. Use one open end wrench to hold nut (B) stationary, and another wrench to turn nut (C) counter-clockwise to loosen it slightly.
3. Turning nut (B) clockwise will give more braking action

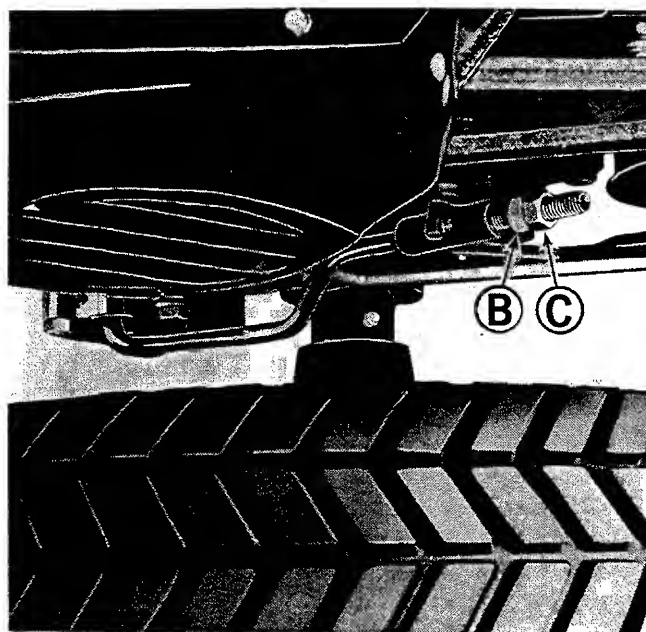


Figure 11. Brake adjustment near right rear wheel.

and turning it counter-clockwise will give less. The brake adjustment can best be made by using the trial and error method, and operating the tractor each time an adjustment has been made. The best adjustment can be made by turning nut (B) counter-clockwise until the foot pedal brake does not work. Then turning it clockwise, one turn at a time, until the tractor will stop satisfactorily when rolling backward. This is the correct adjustment. Further tightening may cause the brake to drag, or prevent proper clutch disengagement.

4. After you are satisfied that the adjustment is correct use one wrench to hold nut (B) stationary and another to turn nut (C) clockwise to tighten the nuts securely together.
5. Lower the seat deck.

PARKING BRAKE ADJUSTMENT

Although the hydrostatic transmission may help prevent the tractor from rolling when the engine is stopped, the parking brake should be properly adjusted and used whenever the operator leaves the tractor seat. The parking brake is actuated and adjusted independently of the foot brake. It is correctly adjusted when it will prevent the tractor from rolling either forward or backward and some resistance is felt when it is placed in the engaged position. If it is too tight, it will be difficult to place it in the engaged position. To adjust the parking brake, proceed as follows:

1. See figure 12. NOTE: ALL DIRECTIONS GIVEN FOR ADJUSTING THE PARKING BRAKE, ARE AS IF YOU ARE STANDING AT THE FRONT OF THE TRACTOR LOOKING BACK TOWARD THE PARKING BRAKE. Loosen nut (A) by turning it clockwise.
2. See figure 12. After insuring the tractor is either on a level surface or the wheels are blocked so it will not roll, pull forward on the parking brake handle (B) to disengage the parking brake.
3. Rotate parking handle (B) clockwise to tighten the parking brake, or counter-clockwise to loosen it. Turn the brake one complete revolution when making any adjustment.

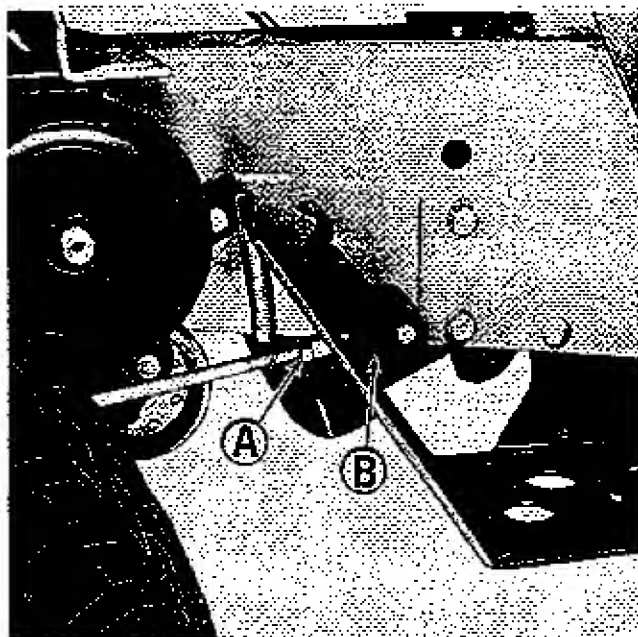


Figure 12. Parking brake adjustment on right side of tractor.

After turning the handle (B) one revolution place it in the engaged position to check it for correct adjustment. The correct engaged position is as shown in figure 12, with the handle at approximately in the 11 o'clock position as you face it from the front of the tractor.

4. After the correct adjustment has been made, use a wrench to tighten nut (A) securely by turning it counter-clockwise.

POWER TAKE-OFF CLUTCH ADJUSTMENT

See figure 13. The power take off clutch is properly adjusted when pulley (A) moves 1/8" when the power take off control lever is engaged and disengaged. If adjustment is required, proceed as follows:

1. Raise the seat deck, by following the instructions on page 10 under Raising the Seat Deck.
2. Place the power take off clutch control lever in the engaged position.
3. Observe the movement of pulley (A) in relation to cup (B) as the power take off control is moved slowly from the engaged to disengaged position. If the pulley (A) moves more or less than 1/8" adjustment is required.
4. Turn the rear most nut at (C) counter-clockwise to loosen it slightly. To increase the amount pulley (A) travels turn the nuts at (C) clockwise. To decrease travel of pulley (A), turn the nuts counter-clockwise. Adjust the nuts at (C) and observe the travel of pulleys (A) as the power take off lever is engaged and disengaged. When adjustment has been made so the pulley (A) travels 1/8" tighten the rear most nut at (C) against the forward nut to lock them in place.
5. Recheck your adjustment.
6. Lower the seat deck.

STARTER-GENERATOR BELT ADJUSTMENT

See figure 14. If the starter turns, but the engine does not rotate, the starter generator belt may need tightening. Proceed as follows:

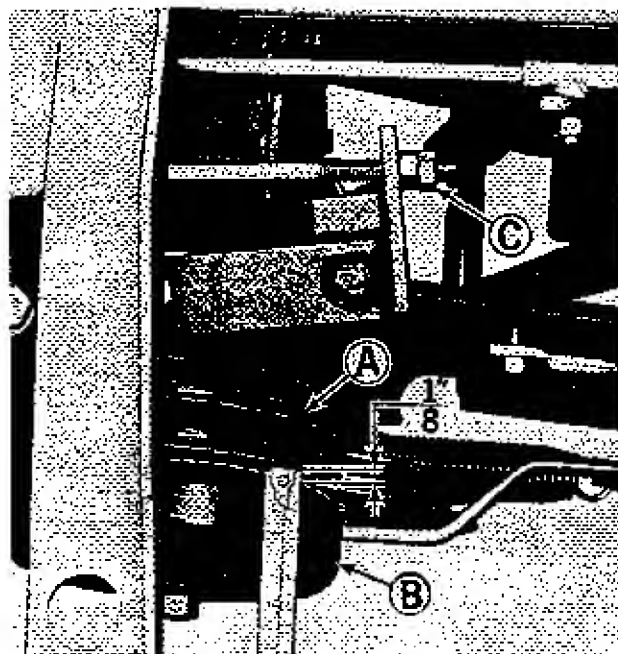


Figure 13. Power take off clutch.

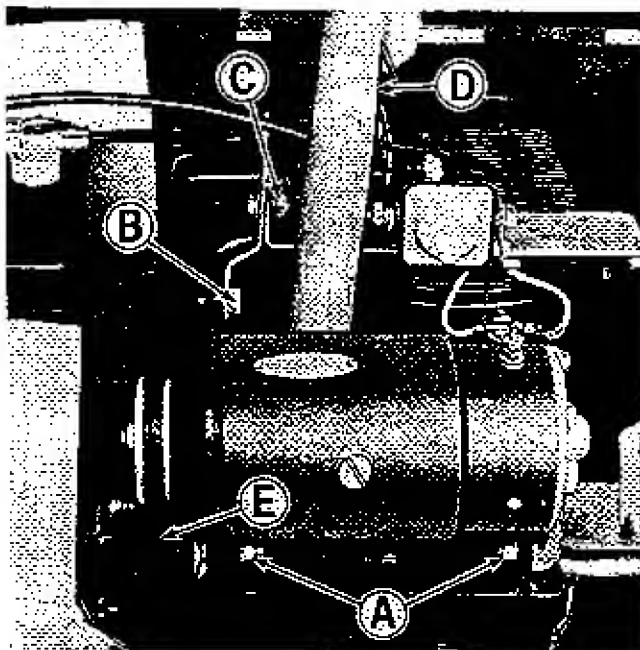


Figure 14. Generator located on right side of engine.

1. Raise the tractor hood as explained on page 10 under raising the tractor hood.
2. See figure 14. Loosen slightly the two nuts (A) cap screw (B) and nut (C). Use a pry bar similar to the one shown between the generator and engine block to apply pressure to the generator and tighten the belt. The belt should be tight enough so thumb pressure at (E) will deflect it about 1/4".
3. While holding the pry bar to maintain tension on the belt, tighten the mounting bracket at (C) securely.
4. Actuate the starter to make sure the engine will rotate. If it does not, loosen the nut at (C) and apply more tension to the belt.
5. Tighten the two nuts at (A) and the cap screw (B) securely.
6. Lower the hood and lock it in place.

CARBURETOR ADJUSTMENT

The carburetor is adjusted at the factory and normally does not need adjustment unless it has been disassembled or tampered with.

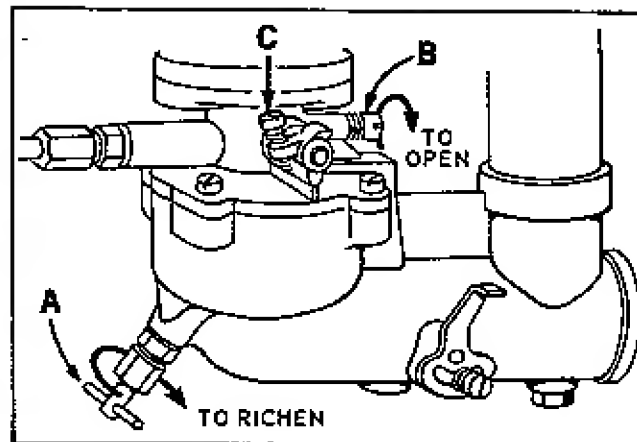


Figure 15. Carburetor adjustments.

INITIAL ADJUSTMENT: Initial adjustment will permit the engine to be started and warmed up prior to final adjustment. Proceed as follows:

1. See figure 15. Turn the needle valve (A) clockwise until it just closes. **CAUTION: VALVE MAY BE DAMAGED BY TURNING IT IN TOO FAR.**
2. Open the needle valve (A) one and one half turns counter-clockwise.
3. Turn the idle valve (B) clockwise until it just closes.
4. Open idle valve (B) one half to three quarter turns.

FINAL ADJUSTMENT

1. See figure 5. Move the transmission shift lever to the **NEUTRAL** position, so the tractor will not creep forward or back when the engine is running.
2. Start the engine and run it at full speed.
3. See figure 15. Turn needle valve (A) clockwise until engine misses, (Lean mixture), then turn it out (counter-clockwise) past the smooth operating point, until the engine runs unevenly (Rich mixture). Now turn needle valve (A) to the mid-point between the rich and lean mixture so the engine runs smoothly.
4. Move the engine speed control lever to the slow position, and set the idle speed adjusting screw (C) so a fast idle is obtained (1200 RPM). Hold the throttle in this idle position and turn the idle valve (B) clockwise (lean) and counter-clockwise (rich) until the engine idles smoothly.
5. Reset the idle speed so the engine idles at 1200 RPM. Push the engine speed control lever forward to the fast position, the engine should accelerate without hesitation or sputtering. If the engine does not accelerate properly, readjust needle valve (A) to a slightly richer mixture.

MAINTENANCE

Your Simplicity tractor has been designed and manufactured to give you many years of dependable operation. In order for it to give you efficient, trouble free service over a long period of time the maintenance operations listed here must be performed on a regular basis. The optional hour meter provides an accurate method of determining when these services need to be performed.

A wide variety of attachments and accessories permit use of your tractor throughout the year. **BECAUSE YOUR TRACTOR IS A MULTI-SEASON TOOL, IT IS VERY IMPORTANT TO SERVICE THE ENGINE FOR THE SEASON IN WHICH IT WILL BE OPERATED.** Be sure to change to winter grade oil before making cold weather starts.

Whenever you are checking fluid levels in any area of the tractor, the readings will be much more accurate if the tractor is setting on level ground. We have provided the Scheduled Maintenance Chart on page 19 as a convenient means for you to know which services should be performed at various times. You should, of course, refer to the detailed explanation of how to perform each maintenance task until you are familiar enough with it to perform it correctly from memory.

Refer to your Briggs & Stratton operating and maintenance instructions for more specific detail on servicing the engine.

ORDERING REPLACEMENT PARTS

Replacement parts required for performing maintenance services or repair work should be purchased from your Simplicity dealer. When ordering parts be prepared to give him the tractor and engine identification numbers. If you have not already recorded these numbers on the inside front cover of this manual, we suggest that you do so now for convenient future reference.

EVERY 5 HOURS OF OPERATION

INSPECT THE TRACTOR AND ENGINE: Make a general inspection of the tractor and engine looking for loose bolts, oil leaks, low tire pressures, etc. A few minutes spent correcting a small problem could prevent a costly breakdown later.

CHECK ENGINE CRANKCASE OIL LEVEL: See figure 16. If the engine has been running, allow a minute or two for the oil to drain down into the crankcase before checking the oil level. Proceed as follows:

1. See figure 16. Turn the engine oil filler cap-dipstick (A) counter-clockwise and lift it out.
2. Wipe the oil from the dipstick with a clean cloth.
3. Replace the filler cap dip-stick in the filler pipe and turn the cap clockwise locking it into position.
4. Remove the filler cap dip-stick and check the oil level on the dip stick.
5. If the oil is below the full line (B) shown in figure 16, add enough oil to bring the oil level up to the full mark. Use the same grade and weight of oil which is already in the engine. **DO NOT OVERFILL THE CRANKCASE.**

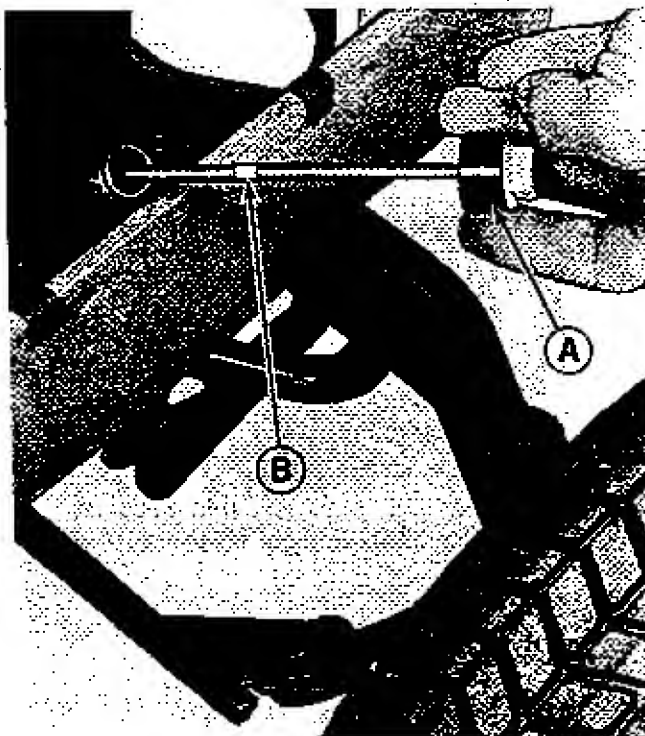


Figure 16. Checking the engine oil at right front of tractor.

6. Replace the filler cap-dipstick (A) and tighten it securely.

EVERY 25 HOURS OF OPERATION

CLEAN TRANSMISSION OIL COOLER: See figure 17. Use a screw driver to remove plug (A). Inspect the oil cooler (B) and if necessary remove any dirt, chaff or oil, which may decrease the efficiency of the cooler. Dirt and chaff collected on the outside of the cooler can usually be brushed off after the engine has been stopped. Be careful not to bend the cooler fins. If grass, chaff, or dirt collect between the fins, it may be necessary to use air or water pressure to blow it out. A non-flammable solvent should be used to remove any oil which may collect on the outside of the cooler. In warm or dusty operating conditions, or when mowing dry dry grass, the cooler may need to be cleaned more often to prevent foreign material from restricting air flow through it.

CLEAN ENGINE FINS AND SCREEN: See figure 18. The blower screen (A) must be kept relatively free of chaff, grass, etc., which would restrict the flow of cooling air to the engine. Material which collects can normally be removed with a brush after the engine is shut off. The screen may need to be cleaned more often when mowing dry grass.

See figure 20. All grass and chaff should be removed from the engine fins (A); **CAUTION: THE ENGINE FINS ARE VERY HOT AFTER THE ENGINE HAS BEEN OPERATED. DO NOT TOUCH THEM UNTIL THE ENGINE HAS BEEN ALLOWED TO COOL. NEVER SPRAY WATER ON A HOT ENGINE.**

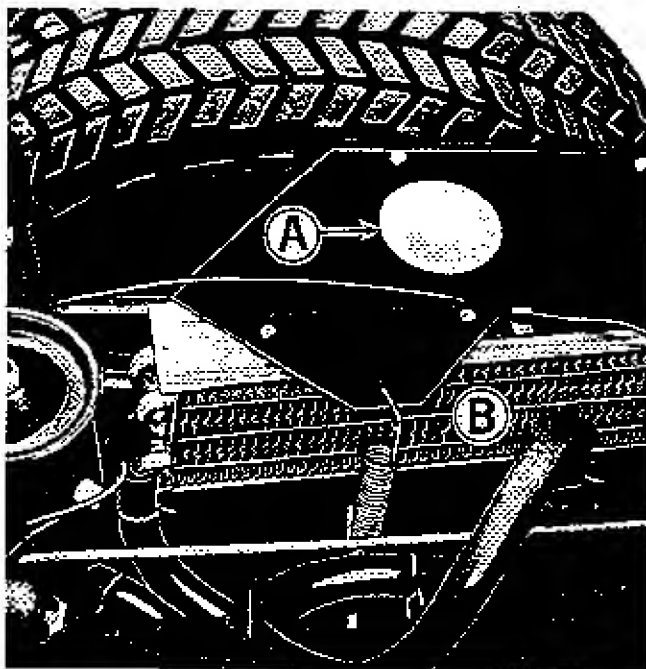


Figure 17. Transmission oil cooler, located under seat deck.

CHANGE ENGINE OIL: Every 25 hours or more often under dusty operating conditions, change the engine oil, using an oil with designation of SC or SD or MS.

SUMMER		WINTER
(Above 40°F.)	(Under 40°F.)	Below 0°F.
Use SAE 30	Use SAE 5W-20 or SAE 5W-30	Use SAE 10W or SAE 10W-30
		Diluted 10% with Kerosene
If not available, Use SAE 10W-30 or SAE 10W-40	If not available, Use SAE 10W or SAE 10W-30	

1. Operate the engine at least 10 minutes or until it is warm so the oil will drain freely.
2. See figure 19. Remove the drain plug (A) from the bot-

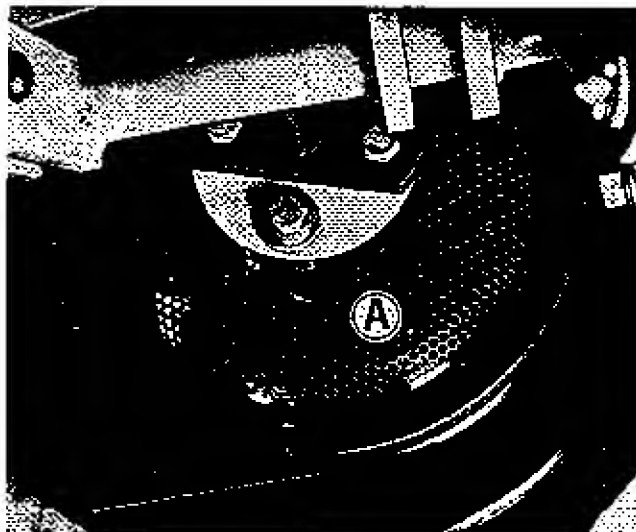


Figure 18. Engine blower screen located at rear of engine as seen from beneath tractor.

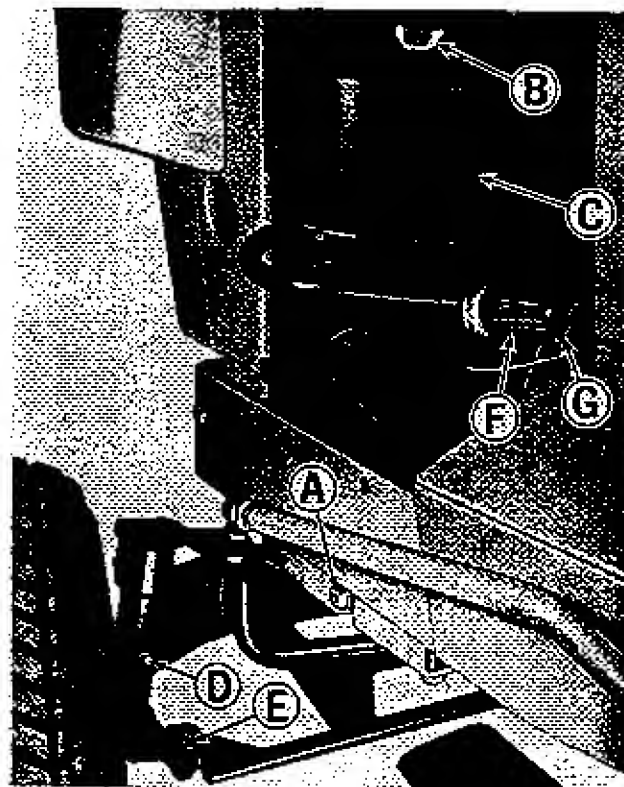


Figure 19. Left front of tractor.

tom of the engine base and allow the oil to drain.

3. After the oil has been completely drained from the engine replace the drain plug and tighten it securely.
4. See figure 16. Remove the filler cap-dipstick (A) and pour (2 quarts) of oil into the engine through the oil filler pipe, being careful not to allow any dirt or foreign material to contaminate the oil.
5. Check the oil level. It should show up to the full mark (B) on the dipstick.
6. Replace the oil filler cap-dipstick, start the engine and check for leaks.

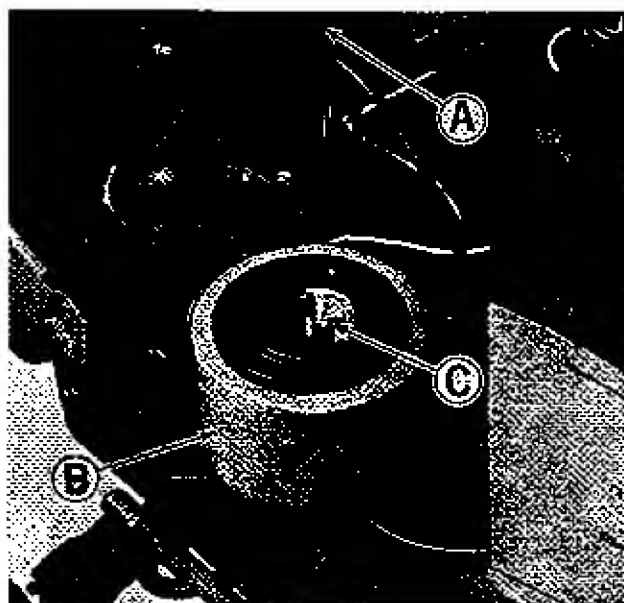


Figure 20. Air cleaner with cover removed on left side of engine.

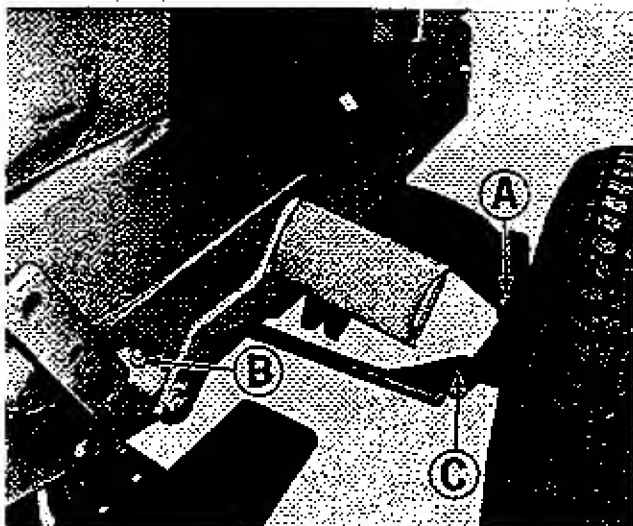


Figure 21. Right front corner of tractor.

CLEAN ENGINE AIR FILTER: The foam precleaner should be removed and cleaned at 3 month intervals or every 25 hours of operation, whichever occurs first.

1. See figure 19. Remove the wing nut (B) and cover (C) from the air cleaner unit.
2. See figure 20. Remove the foam precleaner (B) and wash it in liquid detergent and water and squeeze dry.
3. Oil the precleaner with one ounce of engine oil, and squeeze it to distribute the oil evenly.
4. Install the foam precleaner as shown in figure 20.
5. See figure 19. Replace the air cleaner cover (C) and fasten it securely with wing nut (B).

LUBRICATE GREASE FITTINGS: Your tractor has 6 grease fittings which should be lubricated every 25 hours with multi-purpose gun grease. Wipe the fittings clean and lubricate each one with five shots of grease, or until the

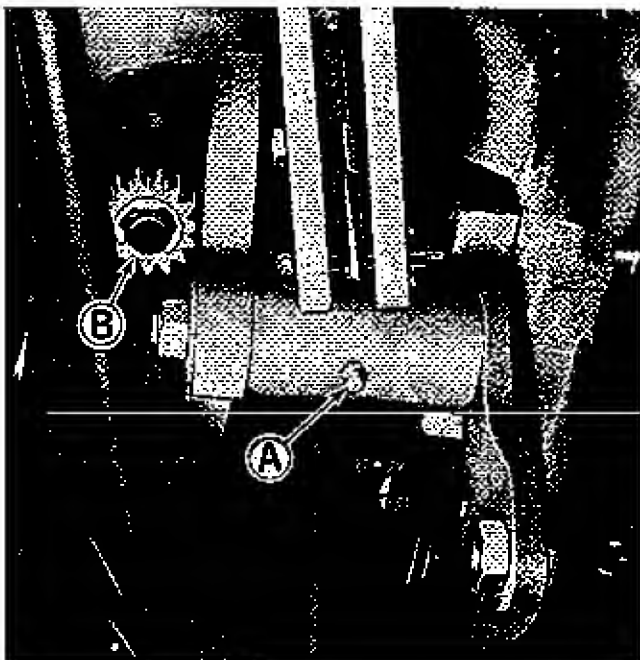


Figure 22. Steering gear as seen from beneath tractor.



Figure 23. Grease zerk located inside right wheel hub.

grease is seen being forced from the bearing. When operating under extremely wet or dusty conditions, lubricate more often. The grease fittings are located as follows:

LOCATION	ILLUSTRATION
Left Spindle	Figure 19, Item D
Right Spindle	Figure 21, Item A
Clutch-brake Pedal	Figure 21, Item B
Steering Bracket	Figure 22, Item A
Right Axle Hub	Figure 23, Item A
Right Axle	Figure 24, Item A

LUBRICATE PIVOT POINTS: Every 25 hours a film of grease should be placed at the end of the neutral start safety switch and on the steering gear to provide smoother operation and help reduce wear. They are located as follows:

LOCATION	ILLUSTRATION
Steering Gear	Figure 22, Item B

A few drops of engine oil placed on the tractor pivot points will help reduce wear and provide smoother operation of the tractor and its controls. Every 25 hours or more often under wet or dusty operating conditions, place a few drops of SAE30 engine oil on the pivot points, being careful not to get oil on belts or pulleys as it may cause them to slip. Pivot points are located as follows:

LOCATION	ILLUSTRATION
Left Tie Rod End	Figure 19, Item E
Right Tie Rod End	Figure 21, Item C
Front Axle Pivot	Figure 25, Item A
Power Take Off Pivot	Figure 21, Item A

CHECK TIRE PRESSURE: Tires will last longer and perform better if they are kept properly inflated. They

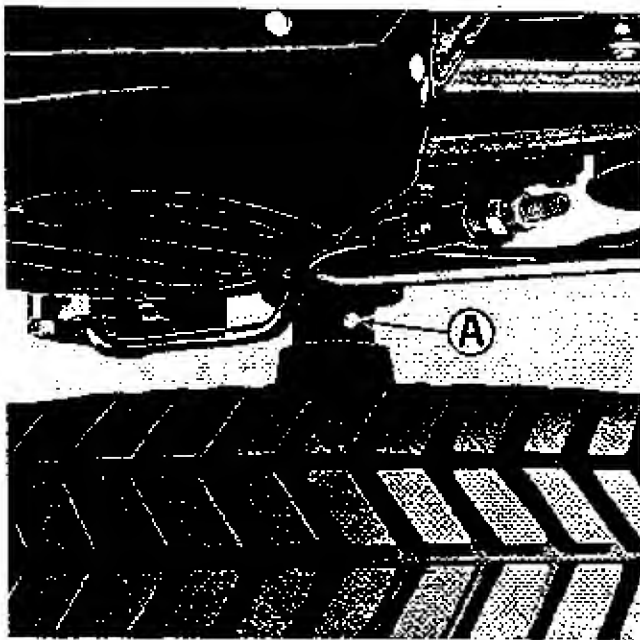


Figure 24. Grease zerk on right rear axle.

should be inflated as follows: Front tires 12 to 15 PSI. Rear tires 6 to 8 PSI.

CHECK TRANSMISSION OIL (FLUID) LEVEL:

See figure 28. The reservoir for the hydrostatic transmission oil must be kept filled to the bottom threads of check plug (A). To check the reservoir oil level remove plug (A). If oil is not up to the bottom threads of the hole, add Dexron automatic transmission oil. Adding transmission oil will be easier by removing nut (B) and reservoir cover (C). Clean cover (C) carefully before removing it to prevent dirt or foreign materials from contaminating the oil in the reservoir. After filling the reservoir to the level of check plug (A), replace check plug (A) cover (C), and nut (B), and tighten securely.

CHECK AXLE HOUSING OIL LEVEL: See figure

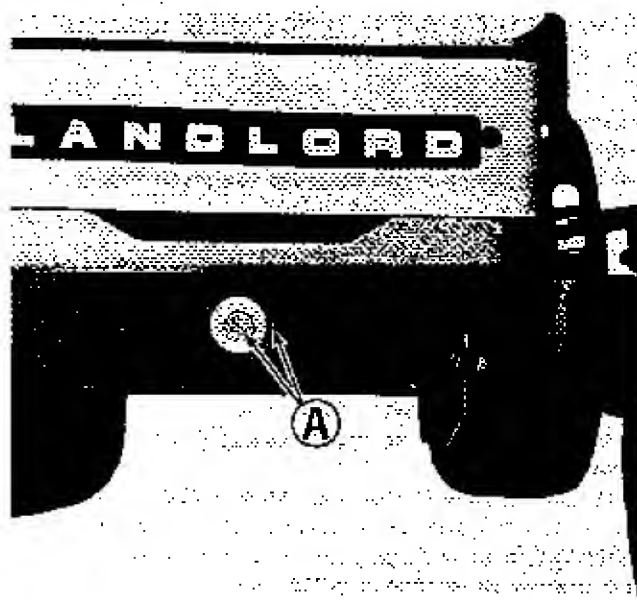


Figure 25. Front of tractor showing axle pivot.

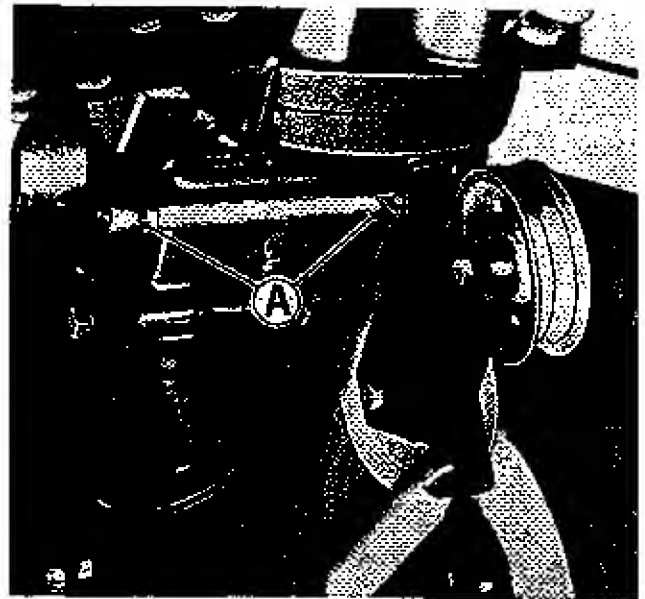


Figure 28. Power take off idler pulley, pivot points as seen from beneath tractor.

27. Remove pipe plug (A) to check the oil level in the axle housing. Oil should be level with the top of the elbow. If it is not, add SAE 90 weight transmission oil. Replace the plug and tighten it securely.

If it should be necessary to drain the axle housing, the drain plug is located at (B). Always tighten it securely when replacing to prevent oil leakage.

CHECK BEVEL GEAR BOX OIL LEVEL: See figure 28. The check and fill plug for the bevel gear box is located at (D). Remove it to check the oil level. The bevel gear box is properly filled when oil is visible at the bottom of the elbow. If filled to the top of the elbow, oil may be forced out

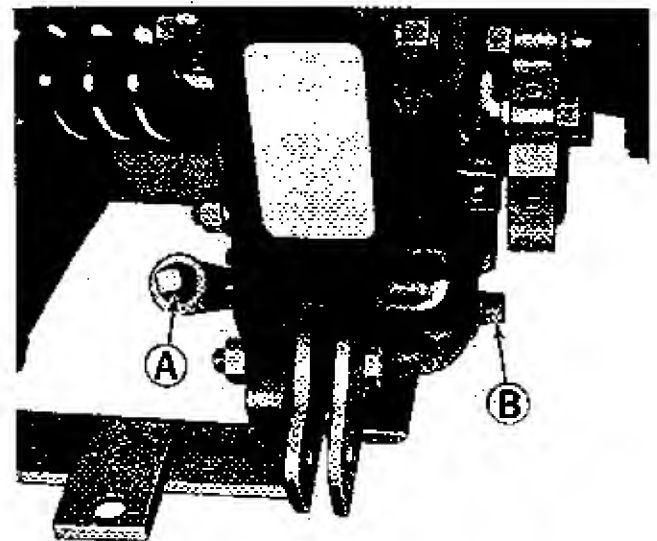


Figure 27. Rear of tractor showing axle drive housing.

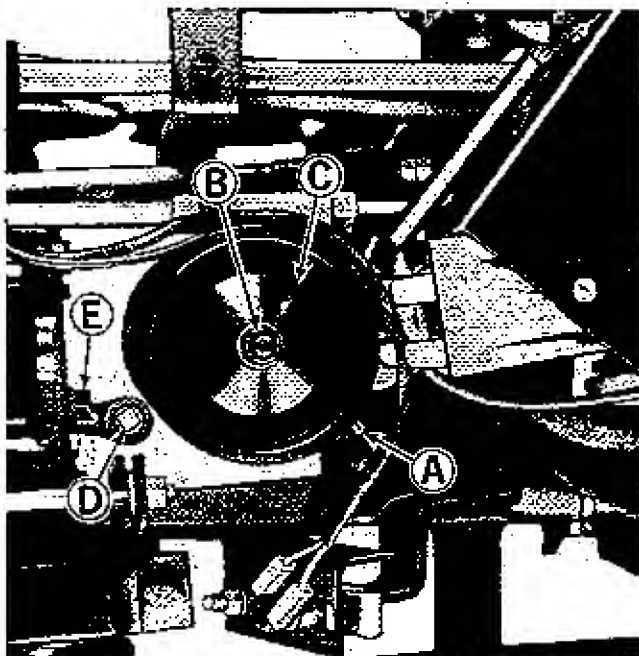


Figure 28. Hydrostatic transmission fluid reservoir and bevel gear housing located under seat deck.

the vent plug located on top of the bevel gear housing. If oil is required, add SAE 90 weight transmission oil. Fill only until oil can be seen in the bottom of the pipe elbow. If it should be necessary to drain the bevel gear housing, the drain plug is located at (E). Always tighten it securely when replacing to prevent oil leakage.

CHECK BATTERY WATER LEVEL: See figure 29. Every 25 hours, or more often when operating the tractor in temperatures above 72°F, remove the 6 battery caps (A) and check the water level in each cell. When the battery is in use, water evaporates from it. Never allow the water level in the battery to get below the top of the plates. Fill the battery to marking ring (D) with distilled water as shown in figure 29. If distilled water is not available, clean tap water may be used.

EVERY 100 HOURS OR ONCE A YEAR

CLEAN OR REPLACE AIR FILTER ELEMENT: The engine air cleaner is made up of two types of filters. The foam filter (Figure 20, Item B) and a dry filtering element. The foam element should be cleaned and oiled every 25 hours as explained under the Every 25 Hour Maintenance Services. Once a year or every 100 hours, whichever occurs first, the paper element should be removed and cleaned or replaced. Proceed as follows:

1. See figure 19. Remove wing nut (B) and cover (C) from the air cleaner.
2. See figure 20. Remove the foam element (B) and clean and oil it as described in the Every 25 Hour Maintenance Services.
3. Remove wing nut (C) and remove the paper element from the air cleaner.
4. Clean the element by tapping it gently on a flat surface. If it is very dirty, replace the element or wash it in detergent, and water rinse until water remains clear. The element must

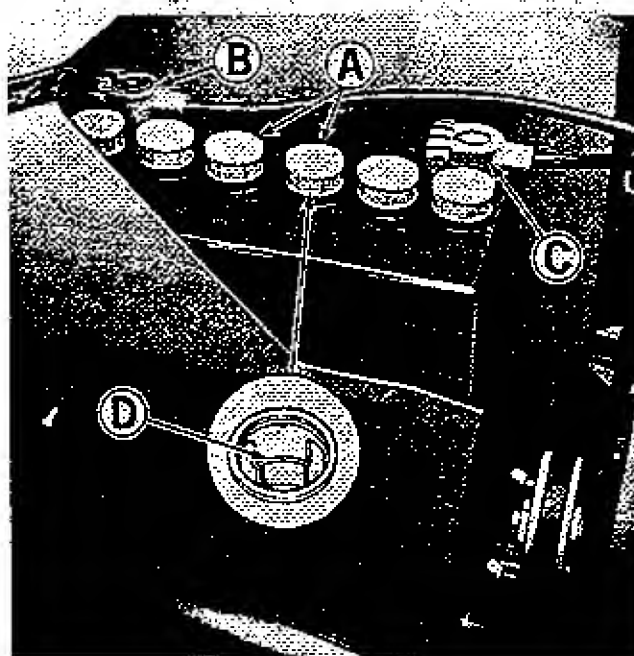


Figure 29. Tractor battery visible when hood is raised.

be dried thoroughly before using.

5. See figure 20. Replace the paper element and wing nut (C) and tighten it securely.
6. Install the foam element (B) over the paper element as shown in figure 20.
7. See figure 19. Replace cover (C) and wing nut (B) and tighten securely.

REPLACE FUEL FILTER: See figure 19. Every 100 hours or more often under dirty field conditions, the fuel filter (F) should be replaced. **CAUTION: DO NOT REMOVE THE FUEL FILTER WHEN THE ENGINE IS HOT, AS SPILLED GASOLINE MAY IGNITE. USE CARE WHEN REMOVING AND INSTALLING CLAMPS (G), NOT TO SPREAD THEM ANY MORE THAN NECESSARY AS THEY MAY TAKE A SET AND NOT HOLD THE HOSE TO THE FILTER PROPERLY.**

In extremely dirty fuel conditions, the fuel filter may become filled with dirt and restrict fuel flow. The filter can be washed in solvent and blown out with compressed air and used.

REPACK FRONT WHEEL BEARINGS: Every 100 hours of operation or once a year, the front wheel bearings should be removed and repacked with grease. Proceed as follows:

1. Block or jack the front of the tractor so the wheel you are to work on is not supporting the tractor.
2. See figure 30. Remove the grease cup (A) by prying off with a screw driver.
3. Use an Allen wrench to loosen the set collar (B).
4. Remove the set collar (B), washer (E), outer bearing (C), wheel (D), and inner bearing (F). It is best to keep the two bearings separate so you can put them back in their original place. Wash the bearing shaft, bearings, and wheel housing with a solvent such as kerosene and wipe dry. Inspect the

SCHEDULED MAINTENANCE CHART

Service Required	Page	After each cycle of indicated hours			
		5	25	100	
Inspect the tractor and engine	14	●			
Check engine crankcase oil level	14	●			
Clean transmission oil cooler*	14		●		
Clean engine fins and screen*	14		●		
Change engine oil* (First change 5 hours)	15		●		
Clean engine air filter*	16		●		
Lubricate grease fittings*	16		●		
Check tire pressure	16		●		
Check transmission oil (fluid) level	17		●		
Check axle housing oil level	17		●		
Check bevel gearbox oil level	17		●		
Check battery water level*	18		●		
Check or replace air filter element*	18			●	
Replace fuel filter*	18			●	
Repack front wheel bearings	18			●	
Clean and reset spark plug	19			●	
Clean battery cables	19			●	

*More often under dusty and/or hot weather operating conditions.

See your Briggs and Stratton Instructions for more complete information on servicing the engine.

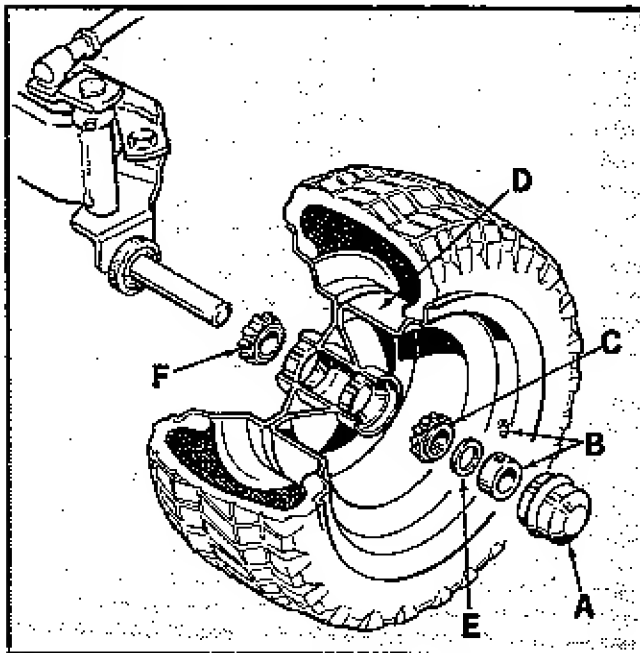


Figure 30. Left front spindle and axle assembly.

seal of the inner wheel. Replace it if it is damaged. **NOTE: IT IS EXTREMELY IMPORTANT THAT THE BEARINGS AND GREASE THAT IS PACKED IN THEM BE KEPT CLEAN.**

5. Using the palm of your hand, force a good quality wheel bearing grease into the bearings. Place a coating of grease on the seal where it turns in the hub.
6. See figure 30. Replace the inner bearing and slide the wheel on the axle.
7. Replace the outer bearing, washer, and the set collar. Spin the wheel slowly and press in on the set collar to seat the bearing. Be sure the seal on the inside of the wheel is properly seated. Hold in on the set collar and tighten the Allen screw securely.
8. Replace the grease cup.

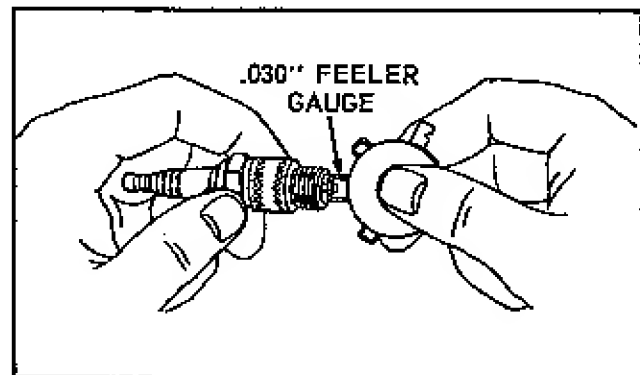


Figure 31. Setting spark plug gap.

CLEAN AND REPLACE SPARK PLUG: See figure 31. Every 100 hours the spark plug should be removed, cleaned, and the gap reset at .30". When the spark plug is worn out, replace it with AC GC 46, Autolight A 71 or Champion J-8. **CAUTION: BLAST CLEANING OF SPARK PLUGS IN MACHINES THAT USE ABRASIVE GRIT IS NOT RECOMMENDED. SPARK PLUGS SHOULD BE CLEANED BY SCRAPING OR WIRE BRUSHING, AND WASHING WITH A COMMERCIAL SOLVENT OR GASOLINE.**

CLEAN BATTERY CABLES: See figure 29. Every 100 hours or once a year the battery cables (B) and (C) should be removed and cleaned. **CAUTION: ALWAYS REMOVE THE NEGATIVE "GROUND CABLE" (C) FIRST AND REPLACE IT LAST.** Clean the battery with soap and water to remove all dirt, oil and corrosion from the battery surface. Do not allow foreign material or cleaning solution to get inside the battery. Clean the terminals and battery clamps with a wire brush. Replace and tighten securely. After tightening coat the terminals and clamps liberally with a coat of grease or vaseline to inhibit corrosion.

ACCESSORIES

There are many optional accessories available for your Simplicity tractor through your Simplicity dealer. They will make your tractor perform better, or easier to operate when using various attachments. For recommended accessories to use, when your tractor is to be operated with an attachment, see the Operation Chart on page 8. See your Simplicity dealer if you wish to purchase any of the following:

BALL HITCH-REAR

FRONT LIGHT KIT

REAR LIGHT KIT

HUB CAPS (Set of 4)

WHEEL WEIGHTS- REAR

WHEEL WEIGHTS- FRONT

POWER LIFT KIT

DUAL LIFT LEVER

REAR LIFT KIT

TIRE CHAINS

CUSTOMER TOOL KIT (Wrenches, pliers & screwdrivers)

HOUR METER

ATTACHMENTS

To make your Simplicity tractor most useful to you, Simplicity manufactures a complete line of attachments for it. They are available through your Simplicity dealer. Contact him if you wish to purchase any of the following:

42" & 48" ROTARY MOWERS

46" SICKLE BAR MOWER

VACUUM COLLECTOR

CART COVER (High capacity)

CART COVER (Low profile)

ROVING NOZZLE FOR VACUUM COLLECTORS

CART - DUMP 1000 POUND CAPACITY

CART - DUMP 400 POUND CAPACITY

38" LAWN REVITALIZER (Thatcher, aerator)

36" & 42" ROTARY SNOW THROWERS

46" SNOW PLOW AND DOZER BLADE

42" SNOW PLOW AND DOZER BLADE

SNOW CAB

36" ROTARY TILLER & 10" TINE EXT.

10" PLOW

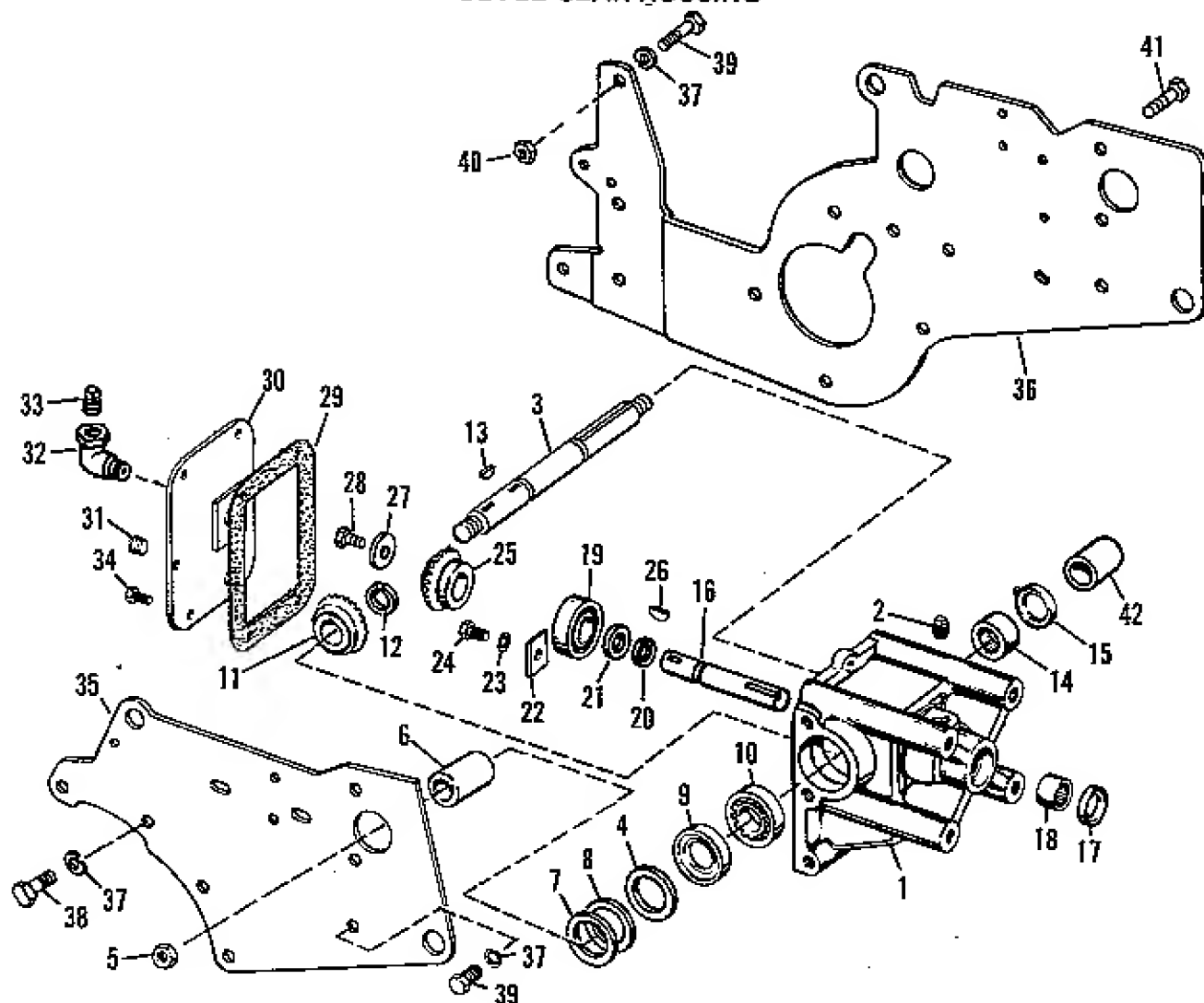
CULTIVATOR

SPRING TOOTH HARROW

42" GRADER BLADE

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

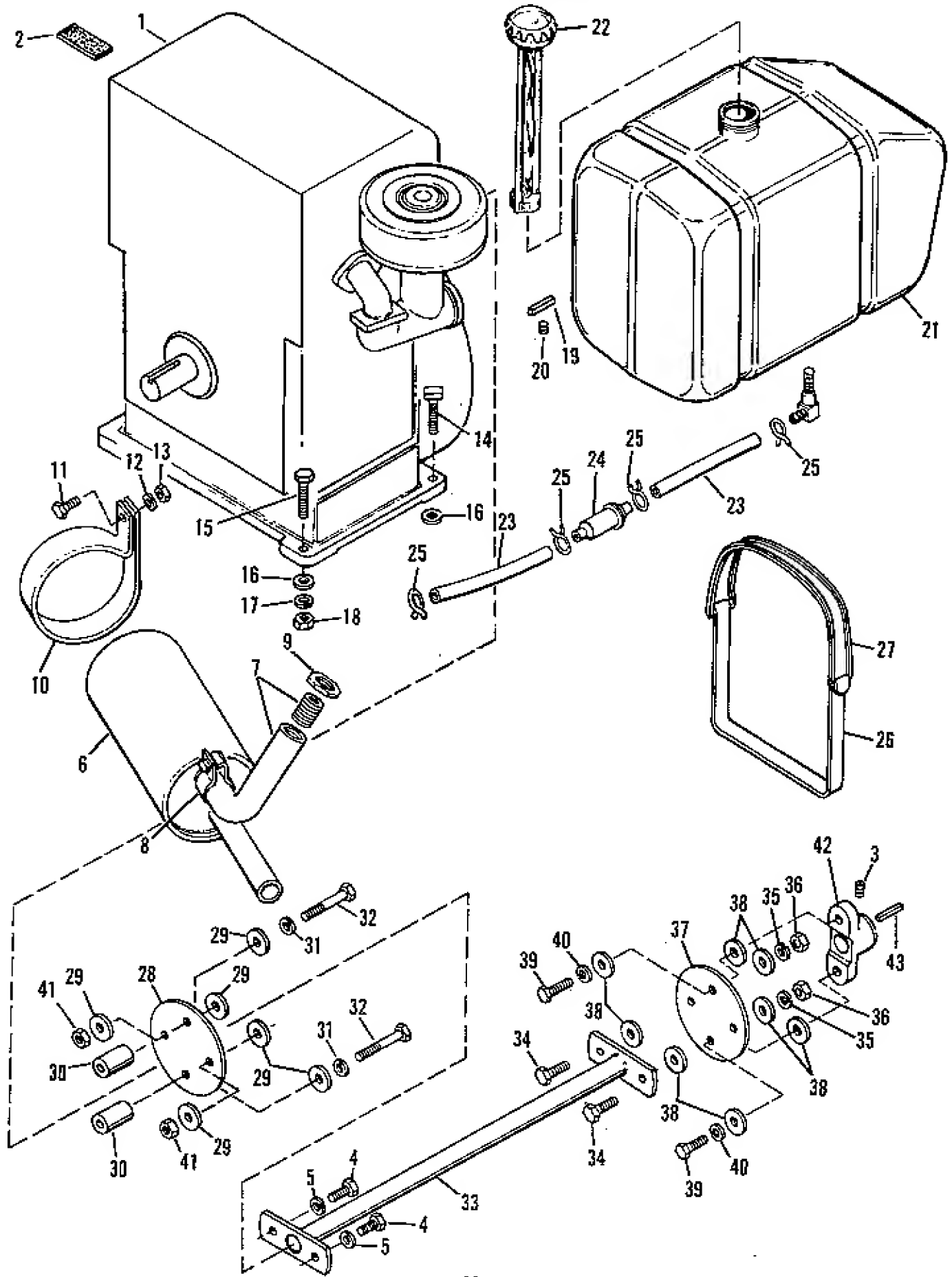
BEVEL GEAR HOUSING



Ref. No.	Part No.	Qty. Req.	Description
1	171797	1	Bevel Gear Housing, w/Bearings
2	154326	1	Pipe Plug
3	173966	1	Driven Shaft
4	154071	1	Washer
5	717517	1	Hex Jam Nut, 3/4"-16
6	171792	1	Spacer
7	171790	5	Shim (As Required)
8	171791	1	Shim
9	171787	1	Oil Seal
10	172256	1	Ball Bearing
11	171796	1	Bevel Driven Gear
12	172206	1	Retaining Ring
13	725003	1	Key
14	154279	1	Needle Bearing
15	118117	1	Oil Seal
16	172750	1	Drive Shaft
17	118117	1	Oil Seal
18	154279	1	Needle Bearing
19	172256	1	Ball Bearing
20	172206	1	Retaining Ring
21	172753	1	Washer

Ref. No.	Part No.	Qty. Req.	Description
22	154040	1	Bearing Clamp Plate
23	720001	1	Lockwasher, 5/16"
24	705012	1	Hex Capscrew, 5/16"-18 x 5/8"
25	172752	1	Bevel Driven Gear
26	725003	1	Key
27	154026	1	Washer
28	154281	1	Hex Capscrew, 5/16"-18 x 3/4"
29	154282	1	Gasket
30	164249	1	Housing Cover Assembly
31	726002	1	Pipe Plug, 1/4"
32	728501	1	Street Elbow
33	726003	1	Pipe Plug, 3/8"
34	707003	6	Hex Capscrew, 1/4"-20 x 5/8"
35	166049	1	R.H. Side Plate
36	174034	1	L.H. Side Plate
37	720006	14	Lockwasher, 7/16"
38	715136	6	Hex Capscrew, 7/16"-14 x 1"
39	705042	4	Hex Capscrew, 7/16"-14 x 1-1/4"
40	717022	4	Full Hex Nut, 7/16"-14
41	715092	4	Hex Capscrew, 7/16"-14 x 1-1/4"
42	173986	1	Spacer

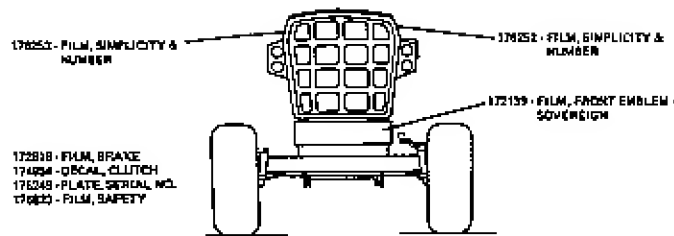
ENGINE AND DRIVE SHAFT



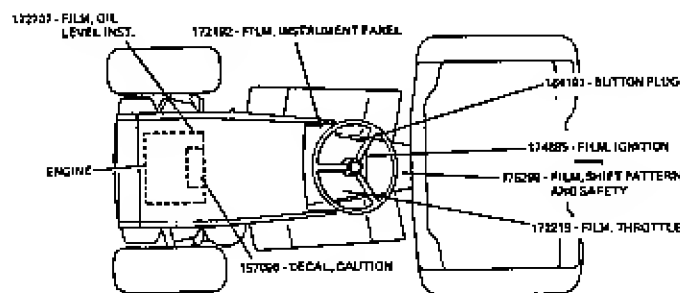
ENGINE AND DRIVE SHAFT

Ref. No.	Part No.	Qty. Req.	Description
1		1	Engine
2	173335	1	Pad, Fuel Tank
3	715049	1	Cup Pt. Socket Head Set Screw, 3/8"-24 N.F. x 3/8"
4	172677	2	Hex Capscrew, 3/8"-16 N.C. x 1-1/8"
5	720002	2	Lockwasher, 3/8"
6	170456	1	Muffler, Exhaust
7	172195	1	Elbow & Nipple Assembly
8	172061	1	Muffler Clamp
9	154378	1	Lock Nut
10	171880	1	Strap, Muffler
11	705012	1	Hex Capscrew, 5/16"-18 N.C. x 5/8"
12	720001	1	Lockwasher, 5/16"
13	717001	1	Full Hex Nut, 5/16"-18 N.C.
14	172455	1	Rec't. Head Screw, 3/8"-16 N.C. x 1-5/16"
15	705009	3	Hex Capscrew, 3/8"-16 N.C. x 1-1/2"
16	719001	4	Plain Washer, 3/8" Std.
17	720004	4	Lockwasher, 1/2"
18	717003	4	Full Hex Nut, 3/8"-16 N.C.
19	171241	1	Key
20	713504	1	Cup Pt. Socket Head Set Screw, 5/16"-18 N.C. x 3/8"
21	171115	1	Tank, Fuel
22	171252	1	Cap, Fuel Tank
23	173204	2	Hose, Fuel, Flexible
24	173206	1	Fuel Filter
25	154372	4	Clamp, Hose
26	171330	2	Strap, Tank
27	172744	2	Strap, Fuel Tank
28	173026	1	Coupling
29	157424	8	Washer, Special
30	8161056	2	Bearing, Pivot Block
31	720002	2	Lockwasher, 3/8"
32	715036	2	Hex Capscrew, 3/8"-16 x 2-1/4"
33	172328	1	Shaft Assembly, Drive
34	172677	2	Hex Capscrew, 3/8"-16 x 1-1/8"
35	720002	2	Lockwasher, 3/8"
36	717003	2	Full Hex Nut, 3/8"-16
37	173026	1	Coupling
38	157424	8	Washer, Special
39	172677	2	Hex Capscrew, 3/8"-16 N.C. x 1-1/8"
40	720002	2	Lockwasher, 3/8"
41	717003	2	Full Hex Nut, 3/8"-16 N.C.
42	172264	1	Flange, Drive Shaft
43	157427	1	Key, Drive Shaft

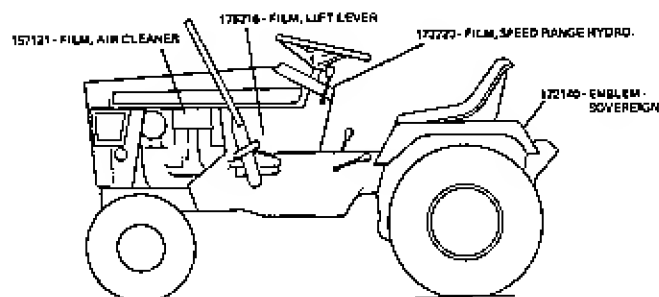
DECALS



FRONT VIEW

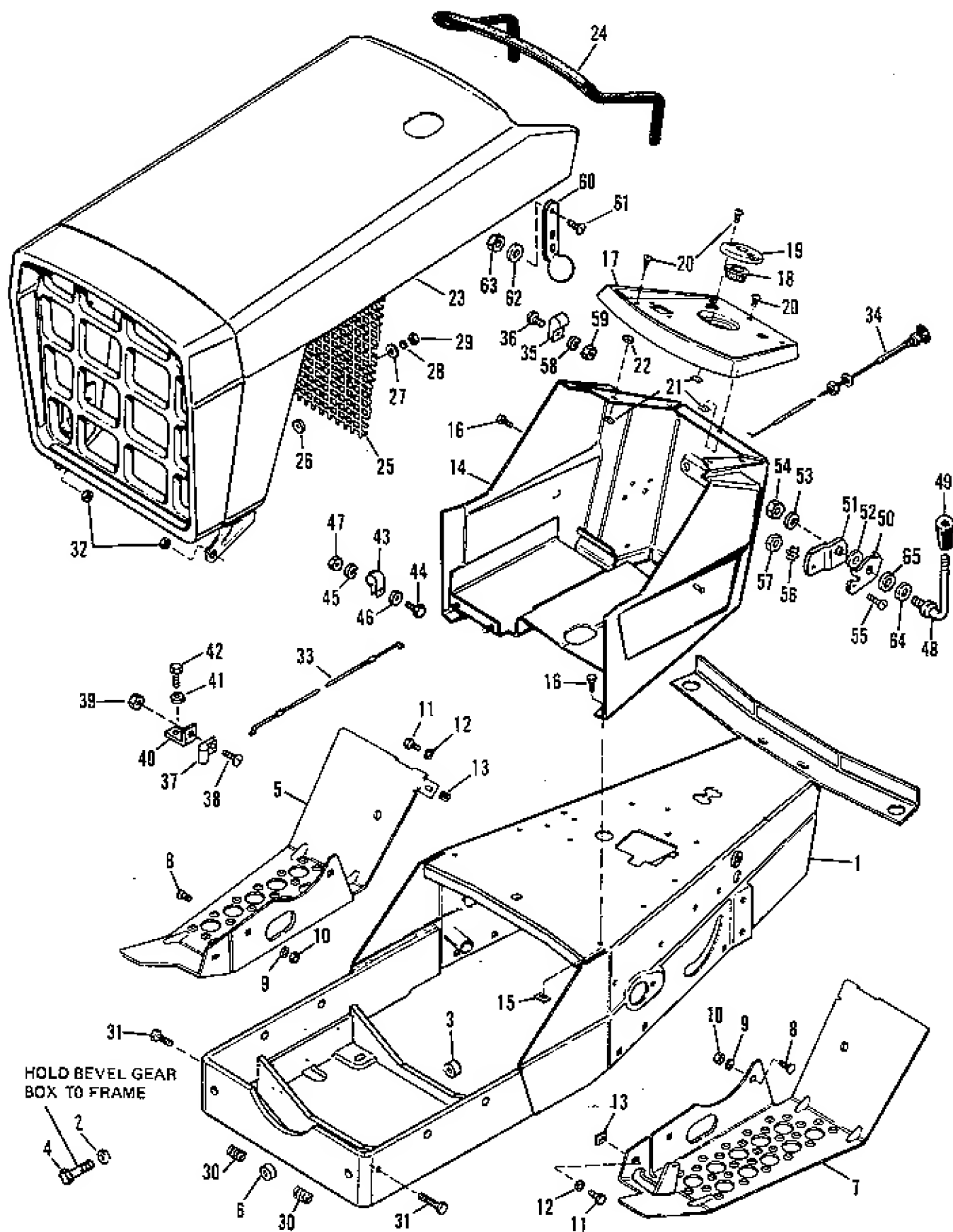


TOP VIEW



LEFT SIDE VIEW

FRAME, HOOD, GRILL & INSTRUMENT PANEL

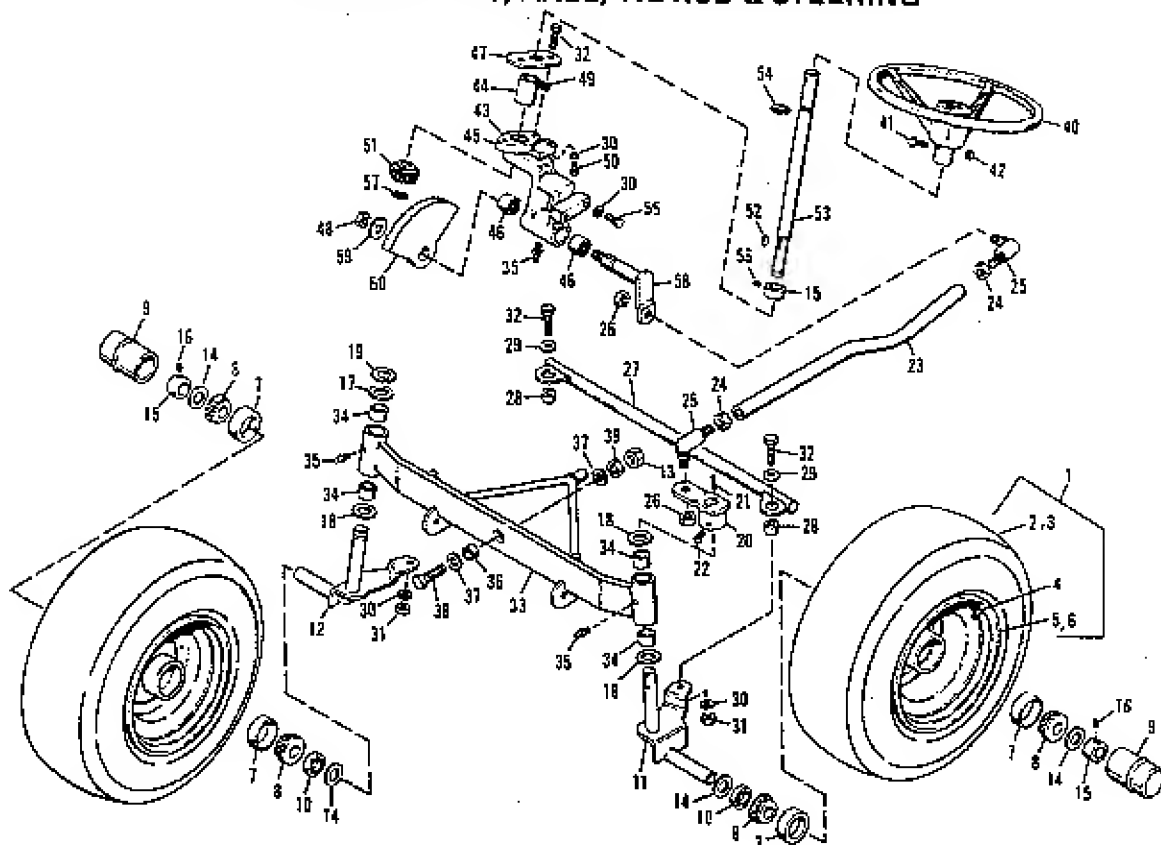


FRAME, HOOD, GRILL & INSTRUMENT PANEL

Ref. No.	Part No.	Qty. Req.	Description
1	174095	1	Frame Assembly
2	720006	4	Lockwasher, 7/16"
3	154289	1	Bushing
4	705039	4	Hex Capscrew, 7/16"-14 N.C. x 1-1/2"
5	171271	1	Foot Rest, R.H.
6	174662	1	Bushing
7	176628	1	Foot Rest, L.H.
8	702015	6	Carriage Bolt, 5/16"-18 N.C. x 3/4"
9	720001	6	Lockwasher, 5/16"
10	717001	6	Full Hex Nut, 5/16"-18 N.C.
11	705017	2	Hex Capscrew, 5/16"-18 N.C. x 3/4"
12	720001	2	Lockwasher, 5/16"
13	718024	2	Nut, Tinnerman, 5/16"-18 N.C.
14	171266	1	Dash Assembly
15	718038	8	Nut, Tinnerman
16	714031	11	Hex Head Self Tapping Screw, No. 14 AB x 3/4"
17	171231	1	Panel, Instrument
18	157077	1	Bushing, Steering
19	172008	1	Plate, Steering Adj.
20	711002	6	Round Head Phillips Screw, 1/4"-20 N.C. x 1/2"
21	718043	6	Nut, Tinnerman, 1/4"-20 N.C.
22	719007	4	Plain Washer
23	171226	1	Grille & Hood Assembly
24	172935	1	Molding, Hood
25	171232	1	Screen, Grille
26	171804	2	Washer
27	172742	2	Washer
28	721003	4	Lockwasher, Shakeproof No. 10
29	717023	4	Full Hex Nut, No. 10-24 N.F.
30	8191047	2	Spring
31	705009	2	Hex Capscrew, 3/8"-16 N.C. x 1-1/2"
32	717510	2	Hex Lock Nut, Center, 3/8"-16 N.C.
33	171355	1	Throttle Control

Ref. No.	Part No.	Qty. Req.	Description
34	171334	1	Choke Control
35	158475	1	Clip, Bowden Wire
36	714005	1	Self Tapping Rd. Hd. Screw, No. 10-24 N.C. x 1/2"
37	158475	1	Clip, Bowden Wire
38	710004	1	Rd. Hd. Machine Screw, No. 10-32 N.F. x 3/8"
39	717007	1	Full Hex Nut, No. 10-32 N.F.
40	157316	1	Bracket, Throttle Cable
41	720003	1	Lockwasher, 1/4"
42	714021	1	Self Tapping Rec. Hex Hd. Screw, 1/4"-20 N.C. x 5/8"
43	122186	1	Clamp
44	705015	1	Hex Capscrew, 1/4"-20 N.C. x 5/8"
45	720003	1	Lockwasher, 1/4"
46	719006	1	Plain Washer, 1/4" Std.
47	717005	1	Full Hex Nut, 1/4"-20 N.C.
48	172040	1	Throttle Handle
49	172038	1	Knob
50	171848	1	Stop Throttle
51	158424	1	Arm Throttle
52	159107	1	Washer
53	721602	1	Washer Lock Dished Type, 3/8"
54	717510	1	Full Hex Lock Nut, 3/8"-16 N.C.
55	710002	1	Round Hd. Machine Screw, No. 10-32 x 1/2"
56	721003	1	Lockwasher, No. 10 Shakeproof
57	717007	1	Full Hex Nut, No. 10-32
58	720007	2	Lockwasher, No. 12
59	717023	2	Full Hex Nut, No. 10-24
60	171600	2	Hood Strap
61	711003	2	Phillips Head Truss Screw, No. 10-32 x 1/2"
62	171804	2	Washer
63	717507	2	Lock Nut, No. 10-32
64	101025	1	Washer
65	156116	1	Washer

FRONT WHEELS, AXLE, TIE ROD & STEERING

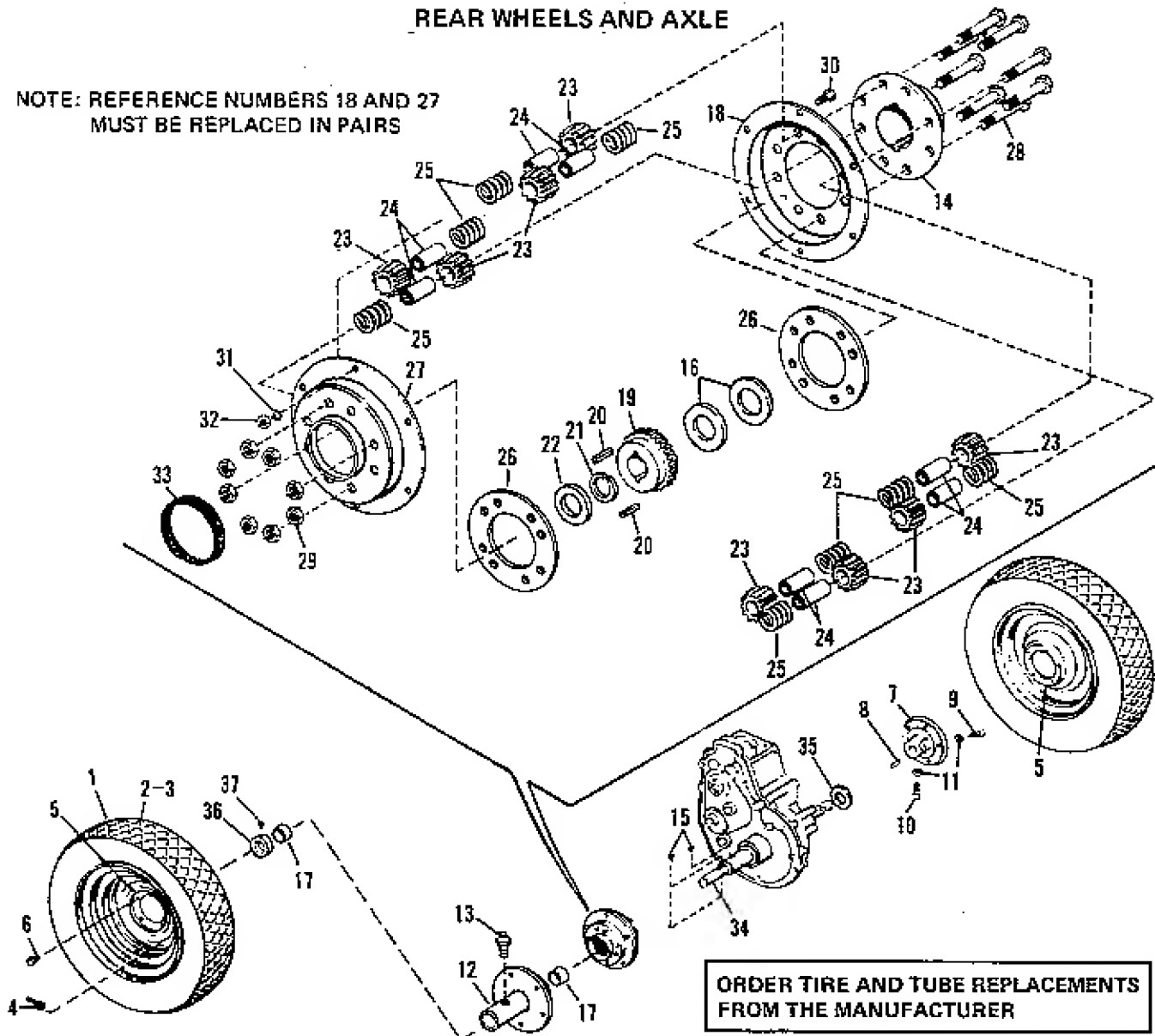


Ref. No.	Part No.	Qty. Req.	Description
1	171376	2	Wheel & Tire Assembly
2	157490	2	Tire
3	164247	2	Tube
4	156305	2	Valve Stem & Cap
5	171377	2	Wheel-Sub Assembly
6	171378	2	Wheel (Front)
7	154393	4	Bearing, Cup
8	154486	4	Bearing, Cone (Without Seal)
9	154487	2	Hub Cap
10	170168	2	Seal
11	171774	1	Spindle Assy., L.H.
12	157494	1	Spindle Assy., R.H.
13	717017	1	Hex Jam Nut, 1/2"-13
14	171375	4	Spacer
15	8021010	3	Collar, Set
16	713503	2	Set Screw, 5/16"-18 x 5/16"
17	8061012	1	Washer (Use Beneath Snap Ring)
18	108181	3	Washer
19	157286	1	Ring, Retaining
20	170998	1	Arm Assy., Strg. L.H.
21	157427	2	Key
22	713006	2	Set Screw, 5/16"-18 x 1/2"
23	171830	1	Rod, Tie
24	717016	2	Hex Jam Nut, 1/2"-20 N.F.
25	164272	2	Joint, Ball
26	717528	2	Hex Nut, Jam Lock, 1/2"-20
27	157499	1	Link Assy., Drag
28	154177	2	Spacer
29	719001	2	Washer, Plain, 3/8"
30	720002	5	Lockwasher, 3/8"

Ref. No.	Part No.	Qty. Req.	Description
31	717003	2	Full Hex Nut, 3/8"-16 N.C.
32	705016	4	Hex Capscrew, 3/8"-16 x 1-1/4"
33	157616	1	Axle Assy., Front
34	154289	4	Bushing
35	727001	3	Fitting, Grease
36	157618	1	Spacer
37	719004	2	Plain Washer, 1/2"
38	715159	1	Hex Capscrew
39	718068	1	Nut, Toplo, 1/2"-13
40	171196	1	Steering Wheel
41	715046	1	Hex Capscrew, 5/16"-18 x 1-1/4"
42	717511	1	Hex Lock Nut, 5/16"-18 N.C.
43	170960	1	Steering Bracket, Casting
44	170992	1	Bushing, Steering
45	171832	1	Casting and Bearing
46	154258	2	Bearing, Needle
47	171000	1	Plate, Steering
48	717519	1	Hex Lock Nut, 7/16"-14 N.C.
49	717524	2	Hex Jam Nut, 3/8"-16
50	715030	1	Hex Capscrew, 3/8"-16 x 3/4"
51	170988	1	Pinion, 15 T, Bevel
52	725002	1	Key, Woodruff
53	171020	1	Shaft, Steering
54	154264	1	Ring, Retaining
55	705031	2	Hex Capscrew, 3/8"-16 x 7/8"
56	713502	1	Set Screw, 5/16"-18 N.C. x 1/4"
57	1602155	1	"E" Ring
58	170999	1	Arm Assy. Steering
59	719003	1	Plain Washer, 7/16"
60	170987	1	Gear, 23 T, Bevel

REAR WHEELS AND AXLE

**NOTE: REFERENCE NUMBERS 18 AND 27
MUST BE REPLACED IN PAIRS**

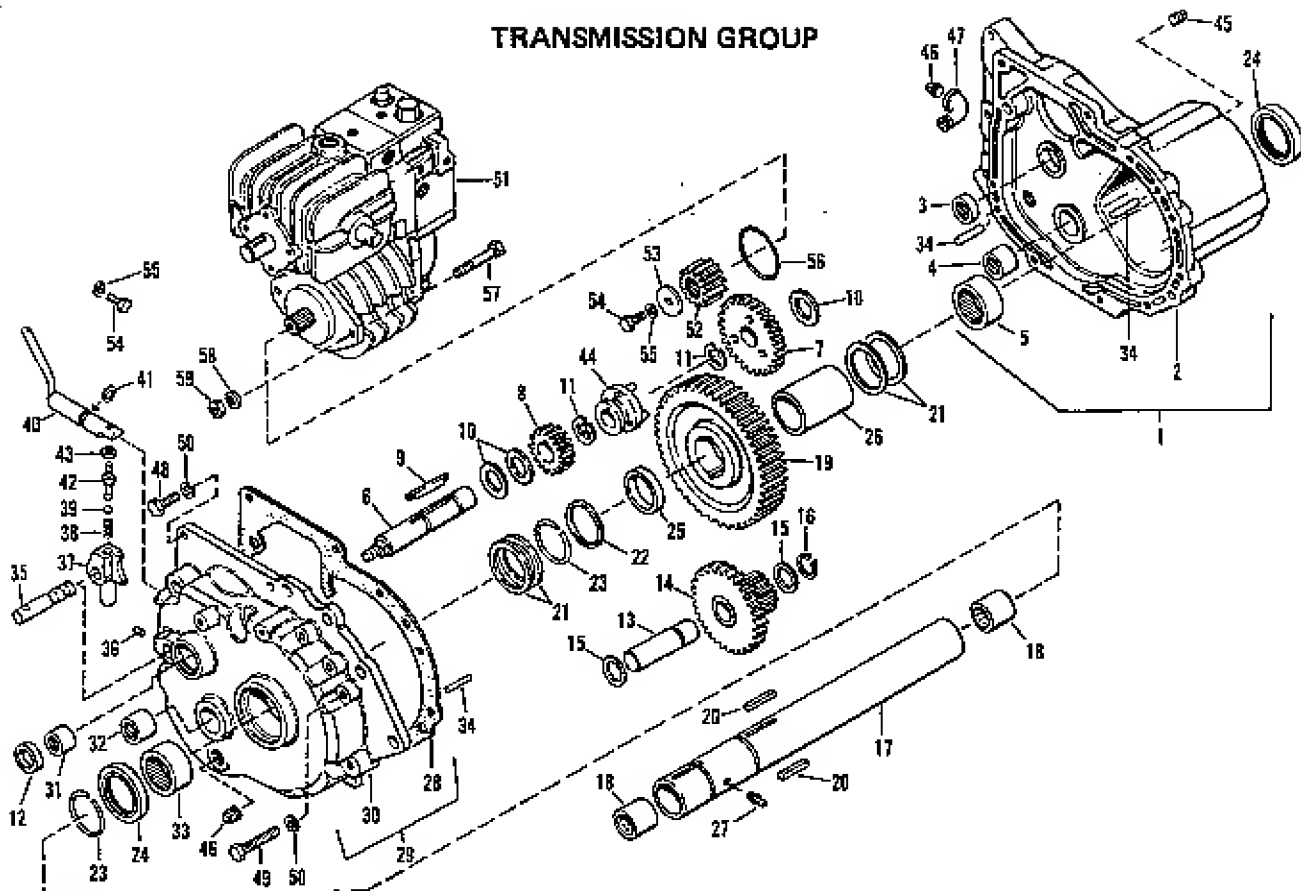


ORDER TIRE AND TUBE REPLACEMENTS FROM THE MANUFACTURER

Ref. No.	Part No.	Qty. Req.	Description
1	173432	2	Wheel & Tire Assy.
2	157637	2	Tire 10-1/2" x 12
3	157638	2	Tube
4	172353	2	Valve Stem
5	173430	2	Wheel Drive
6	8261100	10	Hub Bolt
7	154208	1	Left Hand Wheel Hub
8	159129	1	Key
9	715022	1	Set Screw, 3/8"-16 x 1-1/2"
10	713004	1	Set Screw, 3/8"-16 x 1"
11	717013	2	Hex Jam Nut, 3/8"-16
12	176945	1	R.H. Wheel Hub Assy.
13	727004	1	Grease Fitting
14	164217	1	Differential Carrier
15	157120	2	Drive Key
16	171515	2	Axle Washer
17	153068	2	Bearing
18	171853	1	Differential Cover
19	177041	1	Differential Gear

Ref. No.	Part No.	Qty. Req.	Description
20	725501	2	Hi-Pro Key
21	154291	1	Retaining Ring
22	154277	1	Axle Washer
23	158579	8	Differential Pinion
24	121083	8	Differential Pinion Spindle
25	162085	8	Spring
26	171517	2	Ring Spacer
27	171854	1	Differential Cover
28	715043	8	Hex Capscrew, 3/8"-16 x 2-1/2"
29	717510	8	Full Lock Hex, Nut, 3/8"-16
30	705015	6	Hex Capscrew, 1/4"-20 x 5/8"
31	720003	6	Lockwasher, 1/4"
32	717005	6	Full Hex Nut, 1/4"-20
33	121190	1	Differential Cover Seal
34	171526	1	Rear Axle
35	105050	1	Washer
36	154065	2	Axle Collar
37	713002	4	Set Screw, 5/16"-18 x 3/8"

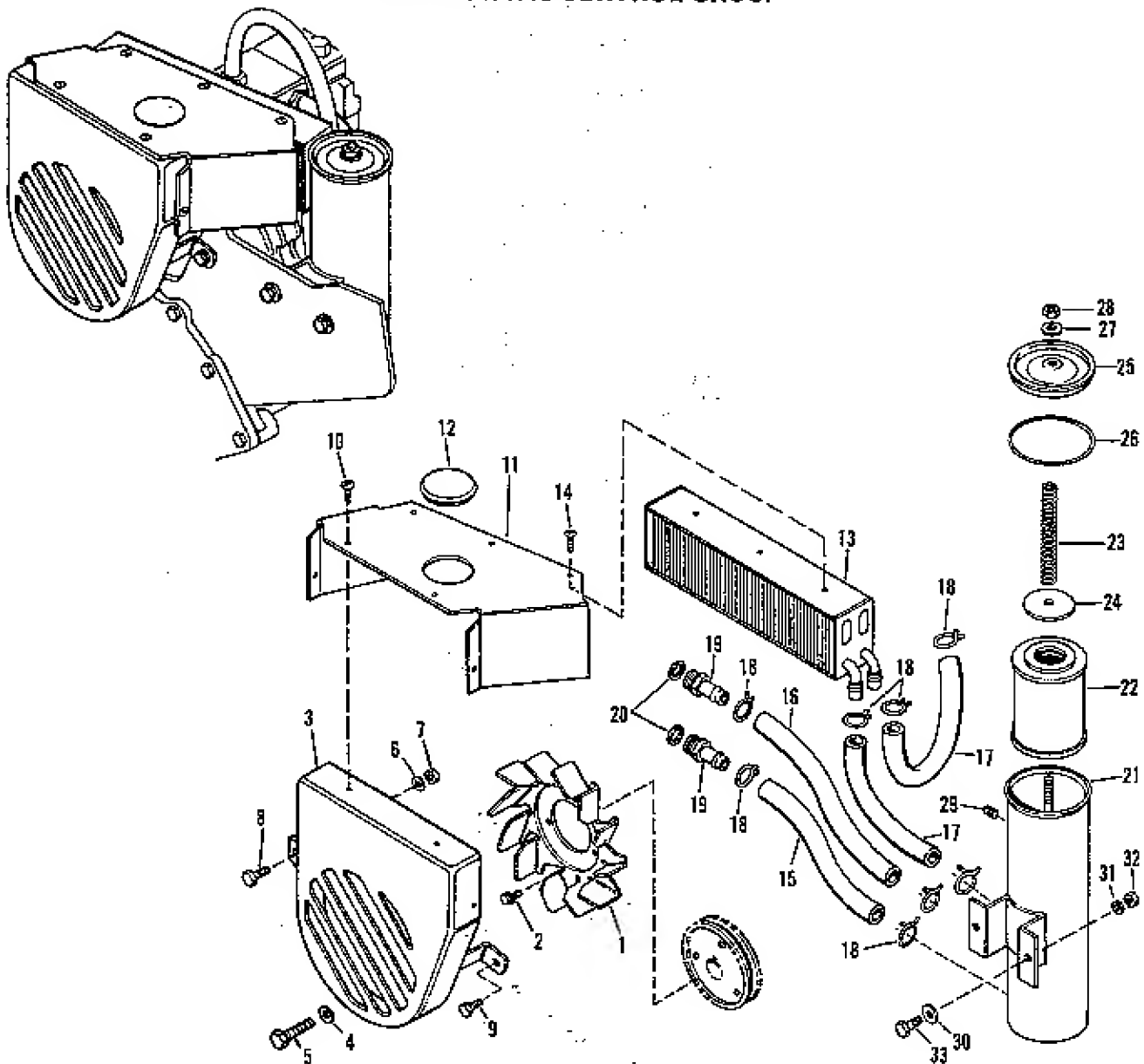
TRANSMISSION GROUP



Ref. No.	Part No.	Qty. Req.	Description
1	166105	1	Gear Case Complete (incl. 2-5)
2	166001	1	Gear Case
3	154271	1	Needle Bearing
4	166018	1	Needle Bearing
5	157519	1	Needle Bearing
6	176246	1	Brake Shaft
7	176245	1	Gear - 1st Intern.
8	176243	1	Sliding Pinion
9	176244	1	Key
10	166013	3	Washer
11	176980	2	Retainer Ring
12	166021	1	Oil Seal
13	166012	1	Shaft, Intern.
14	176236	1	Pinion & Gear Assembly
15	166016	2	Washer
16	166017	1	Retaining Ring
17	166066	1	Axle Tube Assembly
18	164224	2	Bushing
19	166006	1	Drive Gear
20	154096	2	Key
21	154097	4	Washer
22	166167	1	Washer
23	154268	2	Snap Ring
24	154269	2	Seal
25	166040	1	Spacer (R.H. Side)
26	166041	1	Spacer (L.H. Side)
27	727002	1	Grease Fitting
28	166043	1	Gear Case Gasket
29	166103	1	Gear Case Cover Sub. Assy., (Includes 30-33)
30	166002	1	Gear Case Cover

Ref. No.	Part No.	Qty. Req.	Description
31	166019	1	Needle Bearing
32	166018	1	Needle Bearing
33	157519	1	Needle Bearing
34	723007	2	Roll Pin, 3/8" x 1"
35	176239	1	Shifter Shaft
36	715019	1	Set Screw, 5/16"-18 x 1/2"
37	176234	1	Shift Fork
38	154323	1	Spring
39	154262	1	Shift Lock Ball
40	176238	1	Shift Shaft Assembly
41	166023	1	"O" Ring
42	166029	1	Shift Stem
43	717029	1	Hex Jam Nut, 5/16"-24
44	176242	1	Drive Flange Assembly
45	726002	1	Pipe Plug, 1/4"
46	726003	2	Pipe Plug, 3/8"
47	728501	1	Street Elbow, 3/8"
48	705007	5	Hex Capscrew, 5/16"-18 x 1"
49	705020	4	Hex Capscrew, 5/16"-18 x 2"
50	720001	9	Lockwasher, 5/16"
51	166097	1	Hydrostatic Pump & Motor Unit
52	166003	1	Motor Shaft Pinion
53	123144	1	Washer
54	715088	1	Hex Capscrew, 5/16"-24 x 3/4"
55	720001	1	Lockwasher, 5/16"
56	166026	1	"O" Ring
57	715064	2	Hex Capscrew, 7/16"-14 x 4"
58	720006	2	Lockwasher, 7/16"
59	717022	2	Full Hex Nut, 7/16"-14

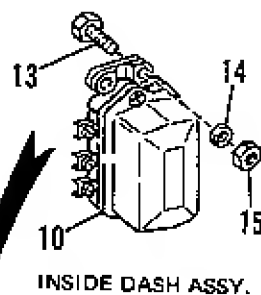
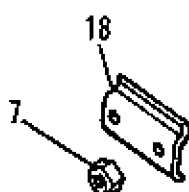
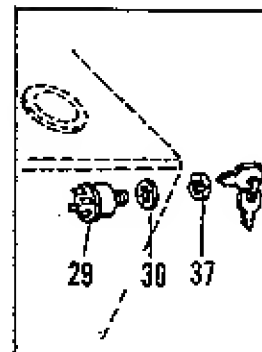
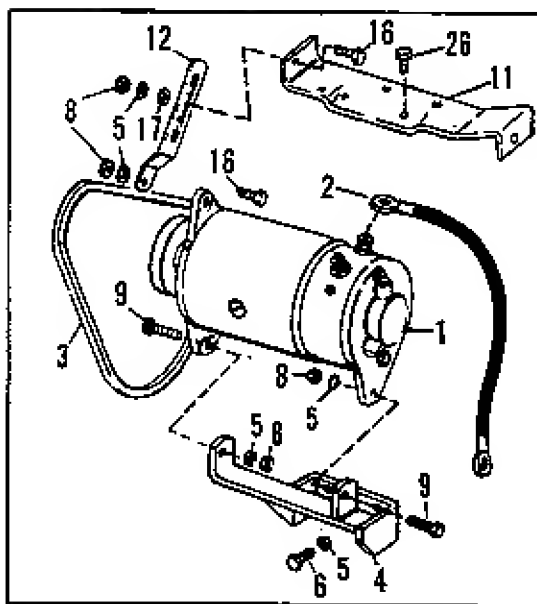
HYDROSTATIC CONTROL GROUP



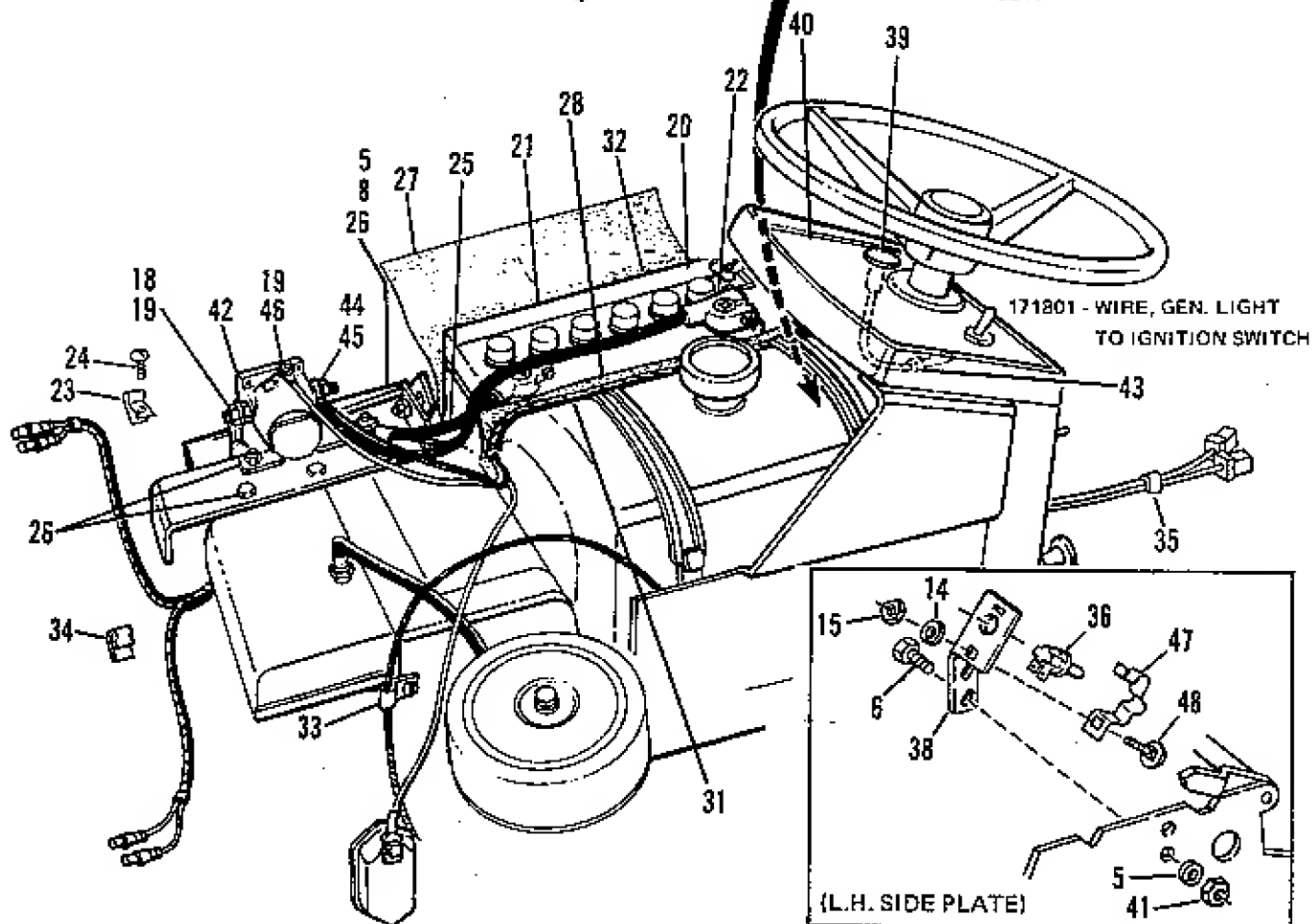
Ref. No.	Part No.	Qty. Req.	Description
1	166022	1	Pulley Fan
2	715090	3	Hex Screw, Washer Hd.
3	166114	1	Fan Shroud Assembly
4	720002	1	Lockwasher
5	705031	1	Hex Capscrew, 3/8"-16 x 7/8"
6	720001	1	Lockwasher, 5/16"
7	717001	1	Full Hex Nut, 5/16"-18
8	705017	1	Hex Capscrew, 5/16"-18 x 3/4"
9	714026	1	Hex Hd. Thread Forming Screw
10	714004	4	Self Tapping Screw, No. 10 x 3/8"
11	166134	1	Cooler Deflector
12	166165	1	Caplug
13	166135	1	Oil Cooler
14	710002	3	Rd. Hd. Machine Screw, No. 10-32 x 1/2"
15	166136	1	Hydraulic Hose
16	166137	1	Hydraulic Hose

Ref. No.	Part No.	Qty. Req.	Description
17	166138	2	Hydraulic Hose
18	166044	8	Hose Clamp
19	166139	2	Beaded Insert
20	166024	2	"O" Ring
21	166140	1	Reservoir Assembly
22	166147	1	Filter Element
23	166171	1	Spring
24	166150	1	Washer
25	166080	1	Reservoir Cover
26	166020	1	"O" Ring
27	166161	1	Nylon Washer
28	717525	1	Elastic Stop Nut
29	726253	1	Pipe Plug, 1/4"
30	719002	2	Plain Washer, 5/16"
31	720001	2	Lockwasher, 5/16"
32	717001	2	Full Hex Nut, 5/16"-18
33	705017	2	Hex Capscrew, 5/16"-18 x 3/4"

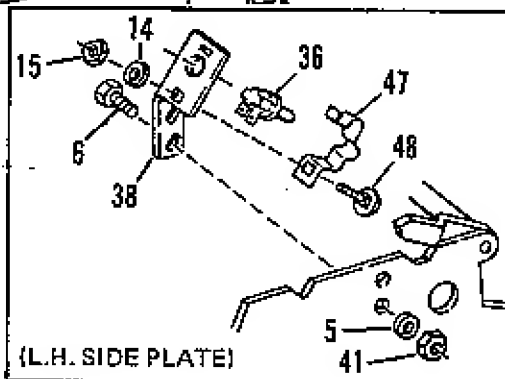
ELECTRIC STARTER - GENERATOR SYSTEM



INSIDE DASH ASSY.



171801 - WIRE, GEN. LIGHT TO IGNITION SWITCH



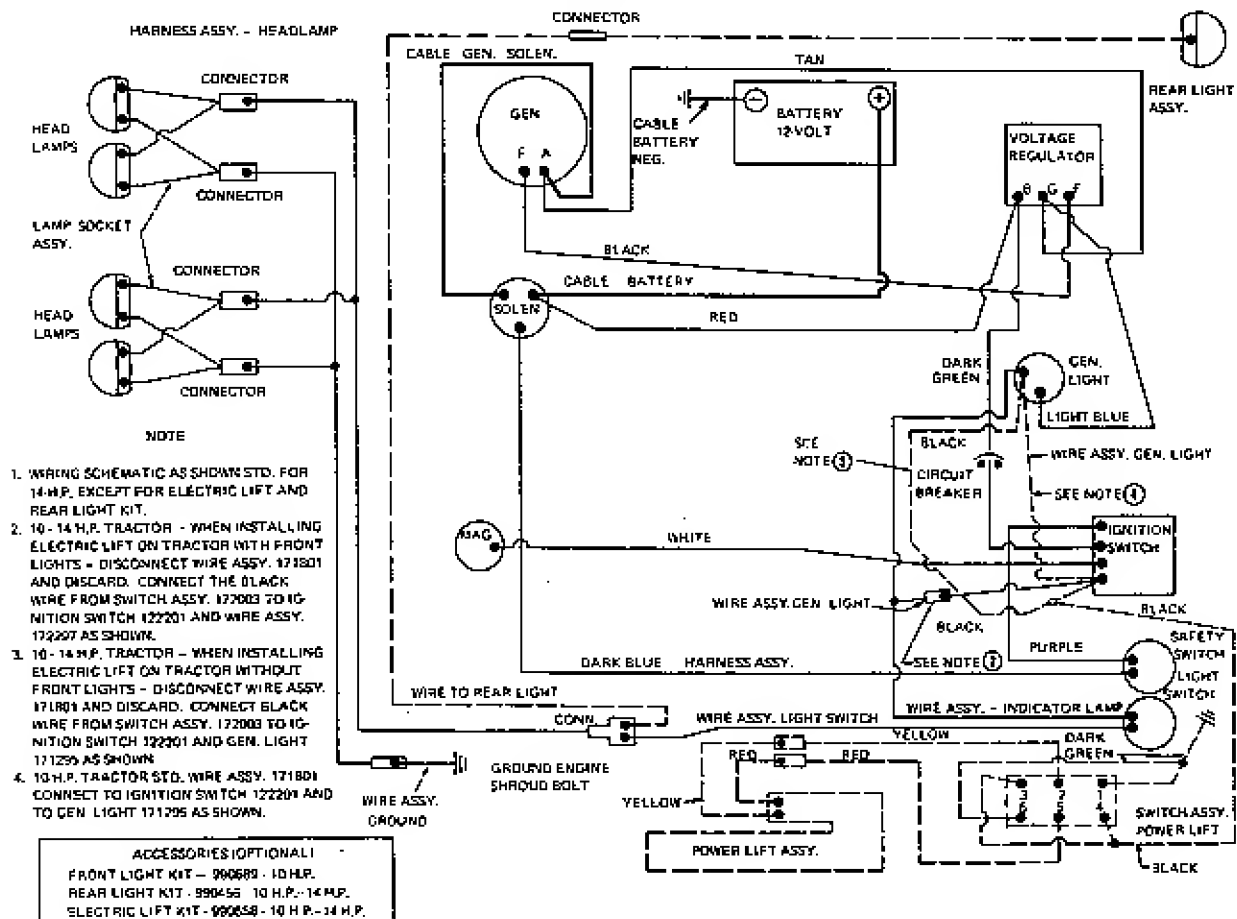
(L.H. SIDE PLATE)

ELECTRIC STARTER-GENERATOR SYSTEM

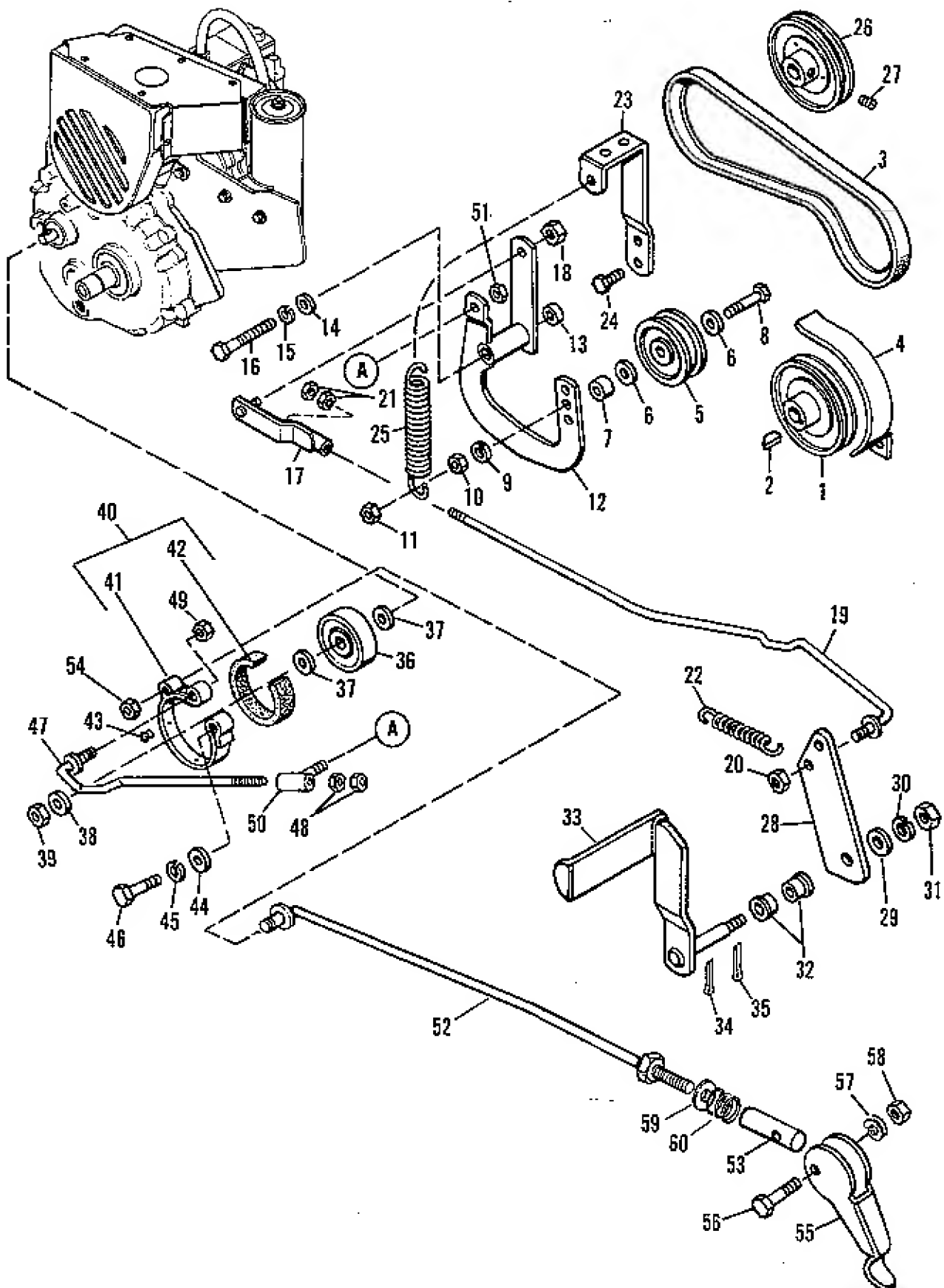
Ref. No.	Part No.	Qty. Req.	Description
1	122236**	1	Motor-Generator
2	122213	1	Generator Start Cable
3	157524	1	"V" Belt
4	157654	1	Support Assembly
5	720001	10	Lockwasher, 5/16"
6	705017	4	Hex Capscrew, 5/16"-18 x 3/4"
7	717525	2	Elastic Stop Nut, 5/16"-18
8	717001	5	Full Hex Nut, 5/16"-18
9	705019	2	Hex Capscrew, 5/16"-18 x 1-1/4"
10	122193**	1	Voltage Regulator
11	176931	1	Bracket
12	157102	1	Belt Tightener
13	705030	3	Hex Capscrew, 1/4"-20 x 3/4"
14	720003	4	Lockwasher, 1/4"
15	717005	4	Full Hex Nut, 1/4"-20
16	715048	2	Hex Capscrew, 5/16"-18 x 3/4"
17	719002	1	Plain Washer, 5/16"
18	171225	1	Battery Clamp
19	720003	2	Lockwasher, 1/4"
20	172270	1	Battery
21	172277	1	Film, Battery
22	171805	1	Cable (Battery to Solenoid)
23	122195	1	Wire Clamp (Generator Cable)
24	714005	1	Rd. Hd. Screw, No. 10-24 x 1/2"
25	171811	1	Cable (Battery to Ground)

Ref. No.	Part No.	Qty. Req.	Description
26	715090	3	Screw Hex Thread Forming, 1/4"-20 x 1/2"
27	122142	1	Battery Insulation
28	172119	1	Fuel Tank Insulation
29	122201	1	Starter Switch w/Keys
30	721509	1	Lockwasher Int., 9/16"
31	176710	1	Harness Assembly
32	172175	1	Grommet
33	106786	1	Clamp
34	165074	1	Speed Clip
35	165073	1	Speed Clip
36	174695	2	Switch
37	122234	1	Nut
38	176311	1	Switch Support
39	171295	1	Indicator Lamp Assembly
40	172163	1	Circuit Breaker
41	717001	2	Full Hex Nut, 5/16"-18
42	122216	1	Solenoid
43	171801	1	Wire Ignition to Generator Light
44	717007	1	Full Hex Nut, No. 10-32
45	721003	1	Lockwasher, ext. No. 10
46	717005	2	Full Hex Nut, 1/4"-20
47	176310	1	Spring Clip
48	702029	1	Carriage Bolt, 1/4"-20 x 3/4"

** FOR SERVICE CONTACT YOUR LOCAL UNITED MOTOR SERVICE DEALER (DELCO-REMY).



CLUTCH AND BRAKE GROUP

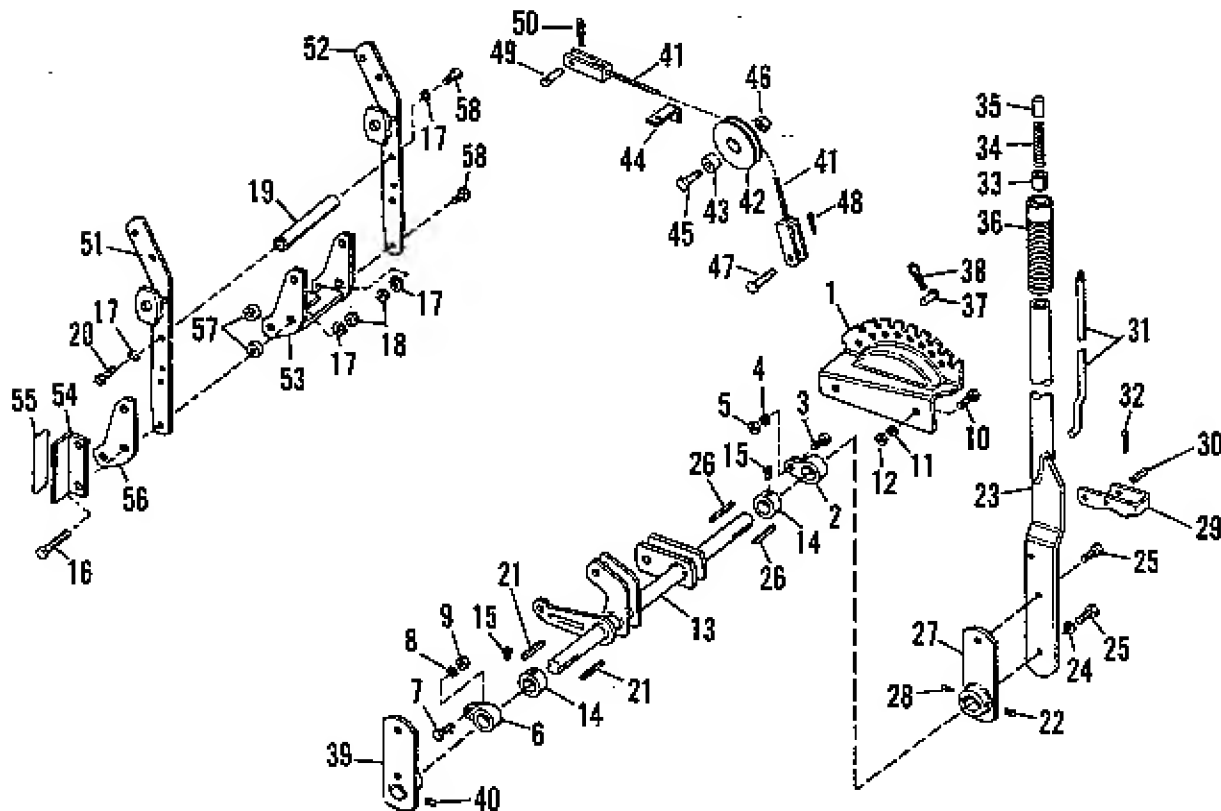


CLUTCH AND BRAKE GROUP

Ref. No.	Part No.	Qty. Req.	Description
1	157121	1	Driver Pulley
2	725003	1	Woodruff Key, 3/16" x 3/4"
3	166172	1	"V" Belt
4	166122	1	Belt Guard Assy.
5	164268	1	Idler Pulley
6	719001	2	Plain Washer, 3/8"
7	157081	1	Spacer
8	705003	1	Hex Cap Screw, 3/8"-16 x 2-1/4"
9	720002	1	Lock Washer, 3/8"
10	717003	1	Full Hex Nut, 3/8"-16
11	717524	1	Jam Hex Lock Nut, 3/8"-16
12	166126	1	Idler Lever Assy.
13	166130	1	Spacer
14	719001	1	Plain Washer, 3/8"
15	720002	1	Lock Washer, 3/8"
16	715063	1	Hex Cap Screw, 7/16"-14 x 3-3/4"
17	166157	1	Rod Guide Assembly
18	717511	1	Full Hex Lock Nut, 5/16"-18
19	174104	1	Clutch Rod Assy.
20	717511	1	Hex Nut, Full, Lock, 5/16"-18
21	717001	2	Full Hex Nut, 5/16"-18
22	121037	1	Front Tension Spring
23	166156	1	Spring Bracket, 1/4" x 1 x 11-1/4"
24	714027	2	Hex Hd. Cap Screw, 3/8" x 3/4"
25	154369	1	Idler Pulley Spring
26	166173	1	Driven Pulley
27	713503	1	Cup Pt. Socket Hd. Set Screw, 5/16"-18 x 5/16"
28	157300	1	Foot Pedal Arm, 1/4" x 1-3/4" x 5-7/8"

Ref. No.	Part No.	Qty. Req.	Description
29	719001	1	Plain Washer, 3/8"
30	720002	1	Lock Washer, 3/8"
31	717003	1	Full Hex Nut, 3/8"-16
32	108419	2	Bushing
33	171178	1	Foot Pedal Assy.
34	722001	1	Cotter Pin, 3/32" x 3/4"
35	722009	1	Cotter Pin, 1/8" x 3/4"
36	166176	1	Brake Drum
37	158196	2	Washer
38	719001	1	Plain Washer, 3/8"
39	717519	1	Lock Nut, 7/16"-14
40	172234	1	Brake Band & Lining Assy.
41	172236	1	Brake Band
42	172237	1	Brake Lining
43	724502	5	Rivet No. 7 x 1/4"
44	719002	1	Plain Washer, 5/16"
45	720002	1	Lock Washer, 3/8"
46	705010	1	Hex Cap Screw, 3/8"-16 x 1-3/4"
47	172460	1	Brake Rod Assy.
48	717003	2	Full Hex. Nut, 3/8"-16
49	717505	1	Full Hex Lock Nut, 3/8"-16
50	166119	1	Rod Guide Assy.
51	717511	1	Full Hex Lock Nut, 5/16"-18 N.C.
52	172461	1	Parking Brake Rod Assy.
53	171994	1	Rod End
54	717001	1	Full Hex Nut, 5/16"-18
55	172108	1	Parking Brake Lever
56	715062	1	Hex Cap Screw, 1/4"-20 x 1-1/4" Grade 8
57	721702	1	Double Lock Washer, 1/4"
58	717509	1	Hex Nut, Full, Lock 1/4"-20
59	719004	1	Plain Washer, 1/2"
60	121037	1	Spring

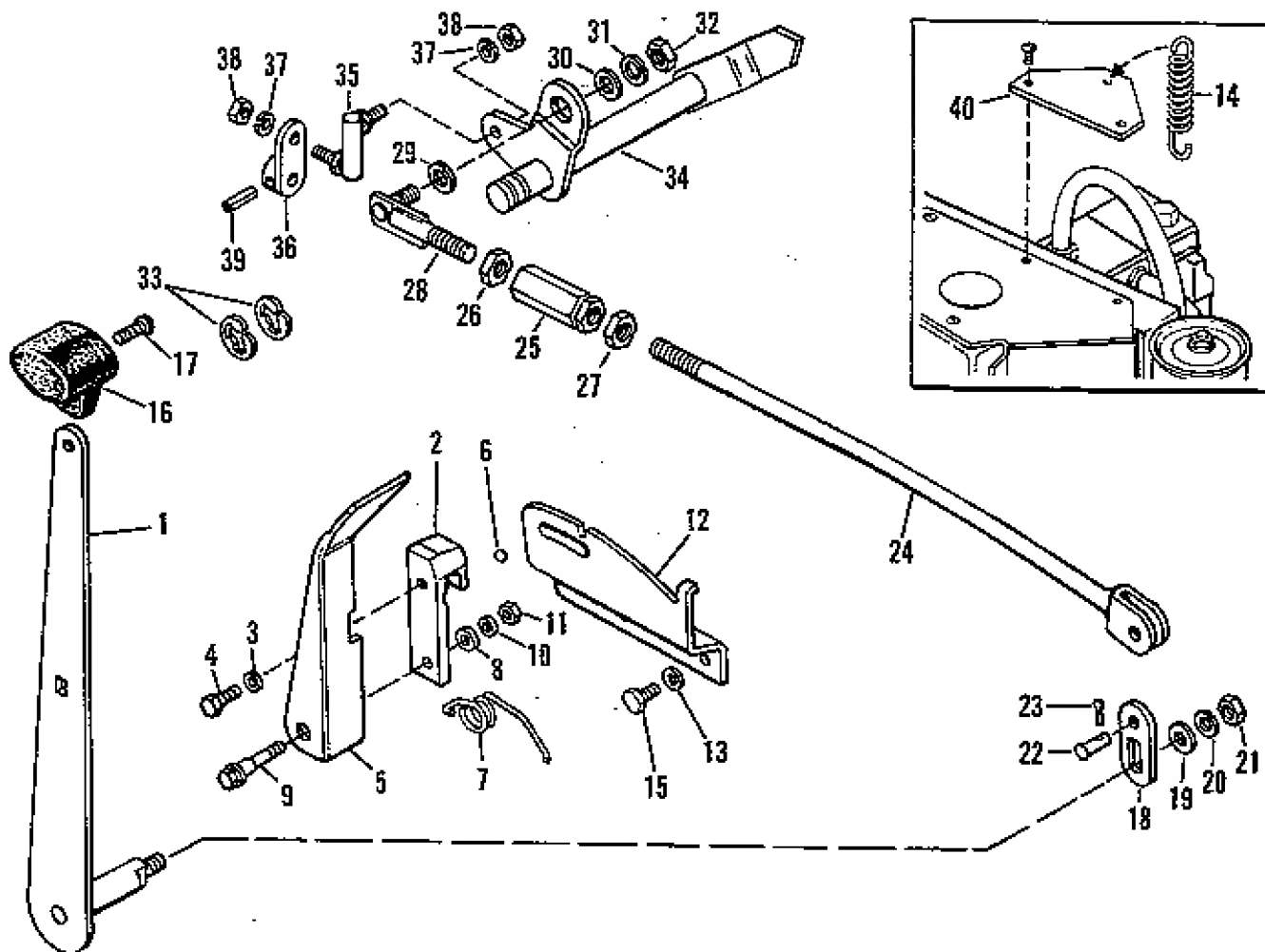
REAR LIFT DRAW BAR GROUP



Ref. No.	Part No.	Qty. Req.	Description
1	171599	1	Lift Lever Quadrant
2	170975	1	Lift Lever Bearing
3	715046	1	Hex Capscrew, 5/16"-18 x 1-1/4"
4	720001	1	Lockwasher, 5/16"
5	717001	1	Full Hex Nut, 5/16"-18
6	170975	1	Lift Lever Bearing
7	715046	1	Hex Capscrew, 5/16"-18 x 1-1/4"
8	720001	1	Lockwasher, 5/16"
9	717001	1	Hex Nut, 5/16"-18
10	705004	2	Hex Capscrew, 3/8"-16 x 3/4"
11	720002	2	Lockwasher, 3/8"
12	717003	2	Full Hex Nut, 3/8"
13	174111	1	Lift Shaft Assembly
14	157624	2	Set Collar
15	713002	2	Set Screw Sq. Hd., 5/16"-18 x 3/8"
16	705069	2	Hex Capscrew, 7/16"-14 x 2-1/2"
17	720006	6	Lockwasher, 7/16"
18	717022	4	Full Hex Nut, 7/16"-14
19	166110	1	Spacer
20	705047	1	Hex Capscrew, 7/16"-14 x 1-3/4"
21	157652	2	Key
22	713502	1	Set Screw, 5/16"-18 x 1/4"
23	171589	1	Lift Lever Assembly
24	720002	1	Lockwasher, 3/8"
25	715120	2	Hex Capscrew, 3/8"-16 x 1"
26	157652	2	Key
27	171593	1	Lift Lever Assy. Inner Section
28	713502	1	Set Screw, 5/16"-18 x 1/4"
29	173039	1	Lift Lever Latch

Ref. No.	Part No.	Qty. Req.	Description
30	723018	1	Roll Pin, 3/8" x 1-1/4"
31	170983	1	Latch Rod
32	722001	1	Cotter Pin, 3/32" x 3/4"
33	154226	1	Spacer
34	152006	1	Spring
35	154227	1	Thumb Button
36	156209	1	Handle Grip
37	153058	1	Pin
38	8161045	1	Spring Clip
39	157625	1	Front Lift Lever Assembly
40	713502	1	Set Screw, 5/16"-18 x 1/4"
41	174085	1	Cable Assy., Lift
42	172725	1	Pulley
43	157081	1	Spacer
44	174723	1	Cable Guard
45	108418	1	Screw
46	717524	1	Hex Jam Lock Nut, 3/8"-16
47	174215	1	Pin
48	722005	1	Cotter Pin, 3/32" x 7/8"
49	153058	1	Pin
50	8161045	1	Spring Clip
51	166206	1	Arm Assembly
52	166072	1	Arm Assembly
53	166074	1	Draw Bar Assembly
54	166198	1	Plate, Decal
55	176299	1	Film, Shift
56	166075	1	Draw Plate
57	166076	2	Spacer
58	705042	3	Hex Capscrew, 7/16"-14 x 1-1/4"

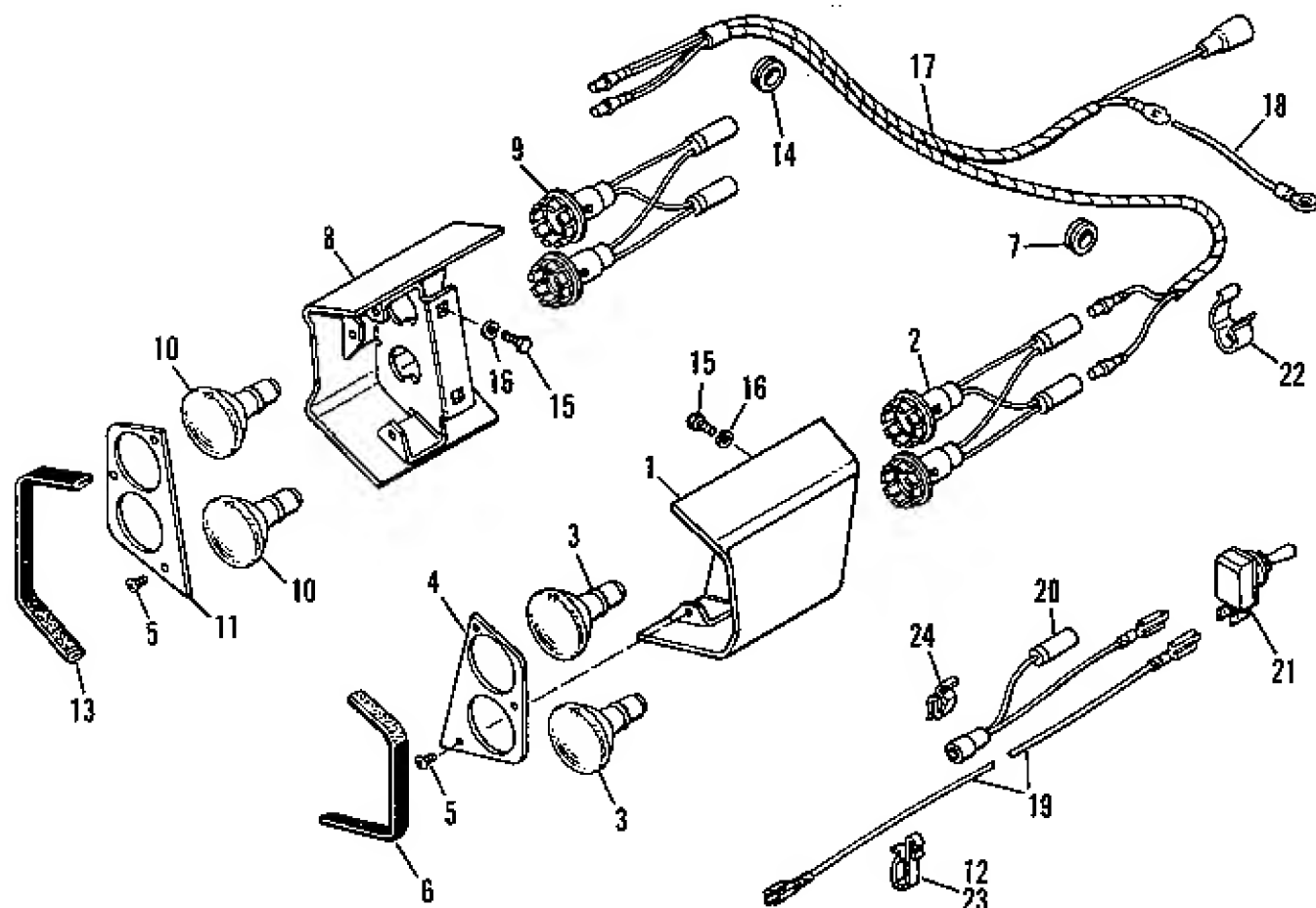
HYDROSTATIC CONTROL GROUP



Ref. No.	Part No.	Qty. Req.	Description
1	171072	1	Lever Assembly
2	171432	1	Stop Clamp
3	720003	1	Lockwasher, 1/4" Std.
4	711002	1	Hex Capscrew, 1/4"-20 N.C. x 1/2"
5	171779	1	Handle
6	166178	1	Shift Ball Handle, 5/16"
7	166047	1	Spring
8	166063	1	Spacer
9	166051	1	Shoulder Bolt
10	719006	1	Plain Washer, 1/4"
11	717513	1	Full Hex Lock Nut, 1/4"-20
12	171429	1	Quadrant
13	721001	2	Shakeproof Lockwasher, 5/16"
14	107135	1	Spring
15	172157	2	Special Screw
16	171165	1	Handle
17	714012	1	Screw, Thd. Form, 1/4"-20 x 7/8"
18	164123	1	Link
19	719001	1	Plain Washer, 3/8"
20	720002	1	Lockwasher, 3/8"

Ref. No.	Part No.	Qty. Req.	Description
21	717003	1	Full Hex Nut, 3/8"-16
22	153058	1	Pin
23	722001	1	Cotter Pin, 3/32" x 3/4"
24	171385	1	Rod Assembly Control, Front
25	166088	1	Turn Buckle
26	718046	1	Full Hex Nut, 7/16"-14 L.H.
27	717022	1	Full Hex Nut, 7/16"-14 R.H.
28	166089	1	Rod Assy., Rear Control
29	166078	1	Spacer
30	719002	1	Plain Washer, 5/16"
31	720001	1	Lockwasher, 5/16"
32	717003	1	Full Hex Nut, 3/8"-16
33	1602155	2	"E" Ring
34	176314	1	Shaft Assembly Control
35	166079	1	Ball Joint, Double End
36	166092	1	Link Assembly Control
37	720001	2	Lockwasher, 5/16"
38	717002	2	Full Hex Nut, 5/16"-24
39	723008	1	Roll Pin, 1/4" x 1-1/4"
40	166160	1	Spring Clip

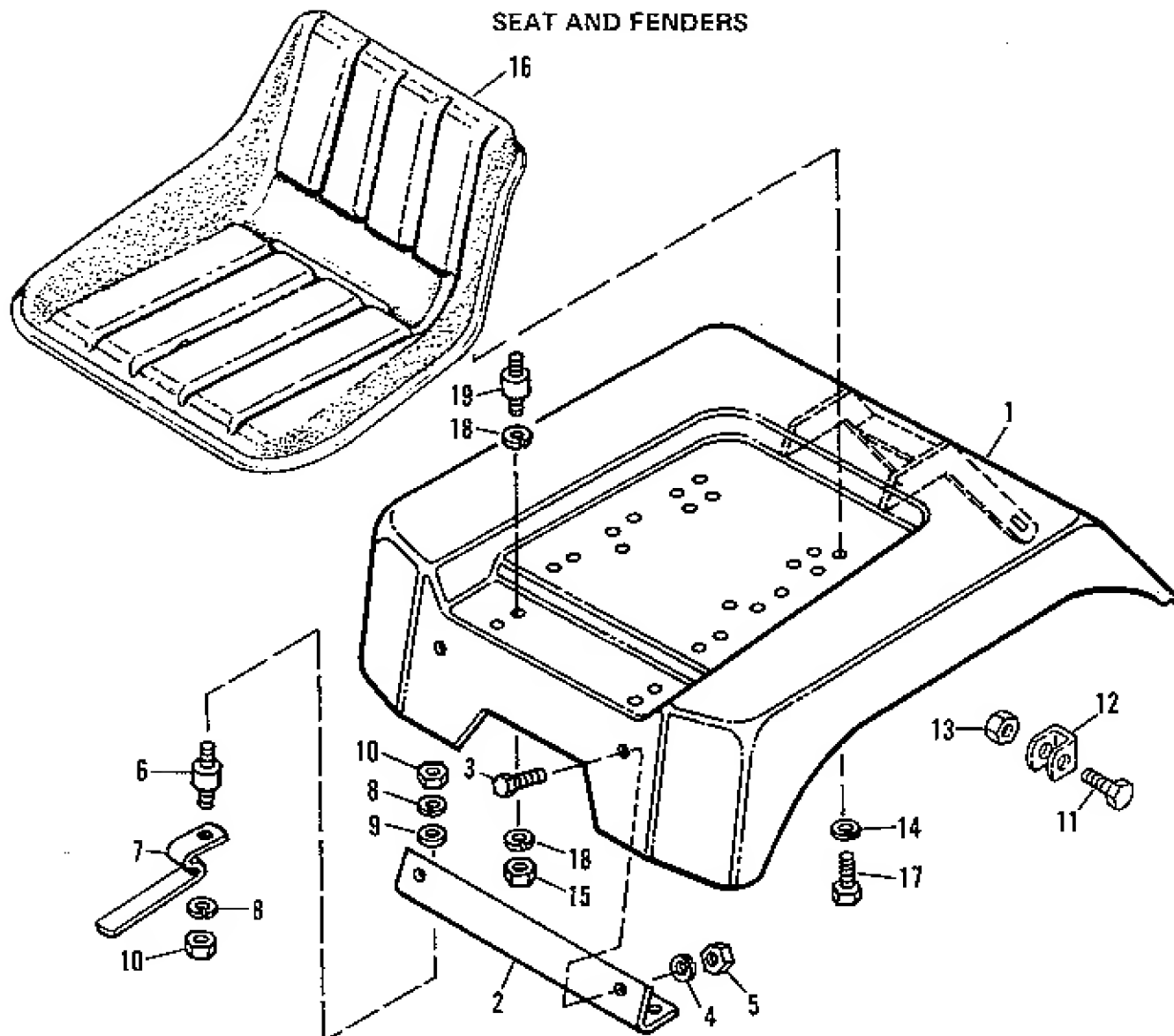
FRONT LIGHT GROUP



Ref. No.	Part No.	Qty. Req.	Description
1	172286	1	Shroud & Plate Assy., L.H.
2	172290	1	Lamp Socket & Wire Assembly
3	172048	2	Headlight
4	172243	1	Plate, Front
5	714019	6	Screw, Round Head Phillips Swageform No. 12-24 x 1/2"
6	172269	1	Moulding
7	172176	1	Grommet
8	172285	1	Shroud & Plate Assy., R.H.
9	172290	1	Lamp Socket & Wire Assy.
10	172048	2	Headlight
11	172243	1	Plate, Front
12	172434	1	Cable Clip Tinnerman
13	172269	1	Moulding

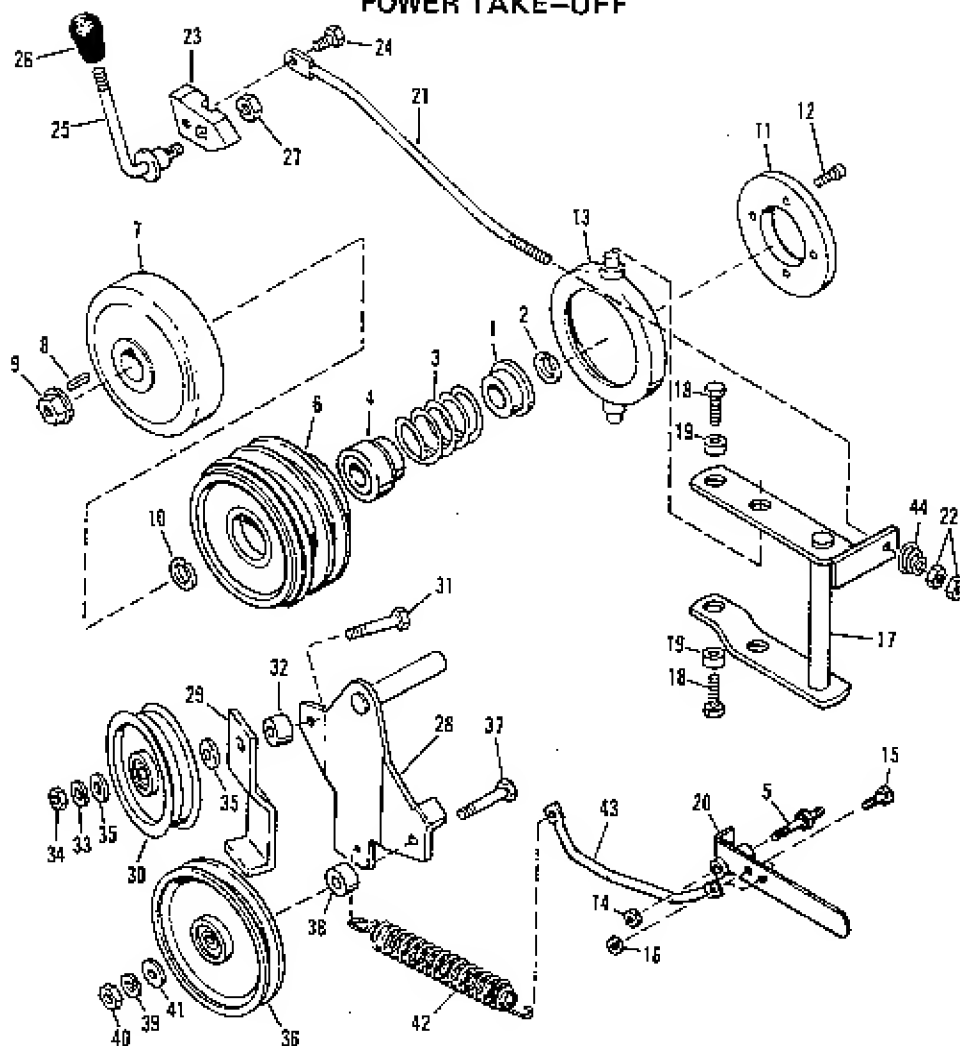
Ref. No.	Part No.	Qty. Req.	Description
14	172176	1	Grommet
15	705030	4	Hex Capscrew, 1/4"-20 x 3/4"
16	720003	4	Lockwasher, 1/4" Std.
17	172294	1	Harness Assembly
18	172295	1	Wire Assy., Ground
19	172296	1	Wire Assy., Light Switch
20	172297	1	Wire Assy., Indicator Lamp
21	122184	1	Switch, Toggle
22	172436	2	Cable Clip Tinnerman, Front Frame
23	172434	1	Cable Clip Tinnerman, Rear Frame
24	172433	1	Cable Clip Tinnerman, Top of Grille

SEAT AND FENDERS



Ref. No.	Part No.	Qty. Req.	Description
1	166111	1	Seat Deck Assembly
2	164029	1	Seat Deck Bracket, Front
3	705012	2	Hex Capscrew, 5/16"-18 x 5/8"
4	720001	2	Lockwasher, 5/16"
5	717001	2	Full Hex Nut, 5/16"-18
6	157094	2	Cushion Connector, Front
7	1606823	2	Spring Clip
8	720001	4	Lockwasher, 5/16"
9	719006	2	Washer, 1/4"
10	717001	4	Full Hex Nut, 5/16"-18
11	705016	2	Hex Capscrew, 3/8"-16 x 1-1/4"
12	1607870	2	Seat Deck Stop
13	717510	2	Full Hex Lock Nut, 3/8"-16
14	720001	2	Lockwasher, 5/16"
15	717001	4	Full Hex Nut, 5/16"-18
16	171153	1	Contour Seat Assembly
17	705012	2	Hex Capscrew, 5/16"-18 x 5/8"
18	720001	4	Lockwasher, 5/16"
19	159085	2	Cushion Connector

POWER TAKE-OFF



Ref. No.	Part No.	Qty. Req.	Description
1	173965	1	Inner Spring Guide
2	172206	1	Ring, Retaining
3	171772	1	Spring
4	174859	1	Bushing Assembly
5	157273	1	Stud
6	173956	1	Pulley
7	174862	1	Clutch Plate Assembly
8	8061081	1	Key
9	718063	1	Washer Base Lock Nut
10	172206	1	Ring, Retaining
11	173957	1	Brake Disc
12	715162	4	Socket Hd. Screw, 1/4"-20 x 5/8"
13	174013	1	Support Brake Assembly
14	717519	1	Full Hex Lock Nut, 7/16"-14
15	705017	1	Hex Capscrew, 5/16"-18 x 3/4"
16	717511	1	Full Hex Lock Nut, 5/16"-18
17	174451	1	Pivot Assembly
18	715165	2	Thread Forming Screw, 5/16"-18 x 3/4"
19	171371	2	Bushing
20	164155	1	Handle Assembly
21	173988	1	Control Rod
22	717001	2	Full Hex Nut, 5/16"-18

Ref. No.	Part No.	Qty. Req.	Description
23	173991	1	Lever
24	174686	1	Special Capscrew, 5/16" UNC-2A x 7/8" Grade 5
25	174664	1	Handle, Clutch PTO
26	172038	1	Knob
27	717510	1	Full Hex Lock Nut, 3/8"-16
28	174455	1	Pivot Arm Assembly
29	170289	1	Belt Stop
30	105306	1	Pulley
31	705006	1	Hex Capscrew, 3/8"-16 x 2"
32	157081	1	Spacer
33	720002	1	Lockwasher, 3/8"
34	717003	1	Full Hex Nut, 3/8"-16
35	719002	2	Plain Washer, 5/16"
36	173982	1	Idler Pulley
37	705006	1	Hex Capscrew, 3/8"-16 x 2"
38	172329	1	Spacer
39	720002	1	Lockwasher, 3/8"
40	717003	1	Full Hex Nut, 3/8"-16
41	719002	1	Plain Washer, 5/16"
42	157262	1	Spring Tension
43	164047	1	Spring Tension Rod
44	175316	1	Conical Spring